

MARKET SURVEY OF BANKING/FINANCIAL
SERVICE COMPANIES

INPUT

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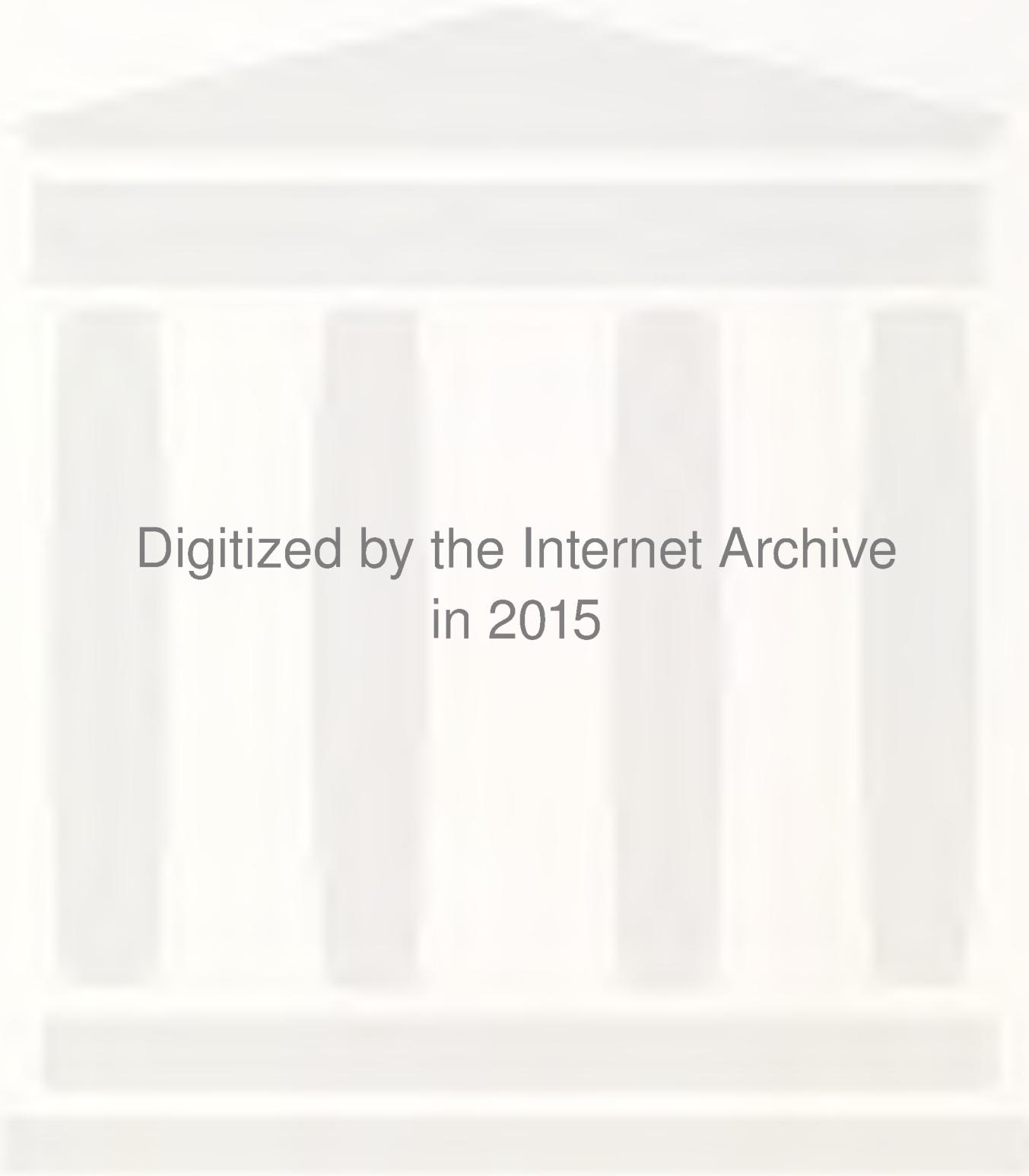
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**MARKET SURVEY OF
BANKING/FINANCIAL SERVICE COMPANIES**

**Prepared for:
CROCKER NATIONAL BANK**

JUNE 1983

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CONTENTS

	<u>Page</u>
I INTRODUCTION.....	1
A. Methodology	1
B. Federal Reserve Board's Ruling	2
C. Subsegment Selection	3
D. Companies Discarded	4
II BANKING AND FINANCE APPLICATIONS SUBSEGMENTS	
CHOSEN.....	7
A. Summary Of Subsegments Chosen	7
B. Loan Servicing/Processing	9
I. Definition	9
2. Market Size And Trends	9
3. Competition	9
4. Recommended Acquisitions	10
C. Financial Management And Planning Systems (FMPS)	10
I. Definition	10
2. Market Size And Trends	11
3. Competition	11
4. Recommended Acquisitions	11
D. Credit Check Authorization Services	14
I. Definition	14
2. Market Size And Trends	15
3. Competition	15
4. Recommended Acquisitions	15
E. Securities Quotation Services	16
I. Definition	16
2. Market Size And Growth	16
3. Competition	16
4. Recommended Acquisitions	17
F. Trust Processing Services	18
I. Definition	18
2. Market Size And Trends	18
3. Competition	18
4. Recommended Acquisitions	19
G. Centralized Customer Information Systems (CCIS)	19
I. Definition	19
2. Market Size And Growth	19
3. Competition	20
4. Recommended Acquisitions	20

	<u>Page</u>
H. Commercial Banking/Correspondent Banking	21
1. Definition	21
2. Market Size And Trends	21
3. Competition	21
4. Recommended Acquisitions	22
I. Cash Management Services	22
1. Definition	22
2. Market Size And Growth	22
3. Competition	25
4. Recommended Acquisitions	25
III ACQUISITION STRATEGY RECOMMENDATIONS	27
A. Introduction	27
B. Acquisition Options	27
C. Recommendations	30
D. Special Cases	32
E. Leverage Of Information Resources	32
IV ACQUISITION CANDIDATES	35
● ANACOMP	37
● Automatic Data Processing	47
● Computer Associates/CAPEX	51, 57
● Computer Language Research	61
● Computer Power	63
● Computer Sciences	67
● Comshare	71
● Execucom	81
● GTE Telenet	85
● Hogan Systems	89
● ISSCO	95
● Kirchman	99
● Management Science	103
● Monchik Weber	119
● National Data	125
● Quotron	143
● Reuters	149
● Ross Systems	155
● SAS Institute	161
● SEI	169
● Systematics	179
● Telecredit	185
● Telerate	193
● Time Sharing Resources	199
● Tymshare	203
● UCC/Wyly	207

MARKET SURVEY OF BANKING/FINANCIAL SERVICE COMPANIES

EXHIBITS

		<u>Page</u>
I	-1 Subsegments Discarded	5
II	-1 Summary Of Eight Key Banking/Finance Service Subsegments	8
	-2 Growth Of Financial Management And Planning Systems Expenditures For Computer Services By Delivery Type: 1981-1982	12
	-3 Market Share Of Leading Financial Management And Planning Systems Vendors By Service Type: 1982	13
	-4 Features Of Cash Management Information Systems	23
	-5 Need To Offer Cash Management Systems	24
III	-1 Computer Services Industry Mergers And Acquisitions Historical Growth: 1980-1982	28
IV	-1 Summary Of Candidates Chosen	36

I INTRODUCTION

I INTRODUCTION

A. METHODOLOGY

- This report was prepared at the request of Crocker National Bank's (CNB) Corporate Finance Group for one of their clients (CNB's client) with a view to:
 - Identifying private and public companies with sales over \$10 million that offer data processing and software products in banking, financial, or economic related areas.
 - Analyzing of service market subsegments compatible with the above and selecting 20 that are relevant to the criteria above and that offer high growth and high revenue opportunities.
 - Summarizing the competitive and technological trends in eight of the subsegments, which have been chosen according to the restrictions given in section B following.
- The methodology used was to scan INPUT's Company Analysis and Monitoring Program (CAMP) data base of 3,842 companies with the selection criteria (over \$10 million, banking/finance-related, no hardware companies) to produce a list of likely companies. The service subsegments they participate in were then evaluated and a selection made (see section C following). Within these subsegments certain companies were rejected (see section D following).

- A strategy and recommendations section has been added to provide CNB with a discussion document, which particularly emphasizes the practical aspects of acquiring service companies in today's environment.

B. FEDERAL RESERVE BOARD'S RULING

- In its July 12, 1982 approval of CITICORP's long contested application to offer data processing and transmission services through CITISHARE, the Federal Reserve Board ordered that CITICORP be allowed to offer services under the following definitions:
 - Timesharing services to financial and other institutions including credit analysis, financial modeling, accounting, bookkeeping, economic forecasting, and similar services to businesses in general.
 - Software and turnkey financial systems including special- or general-purpose hardware and software for use at the site of the customer for banking-related services, the hardware not exceeding 30% of the total cost of the services offered.
 - Electronic funds transfer transmission services for economic data and other data normally exchanged by financial institutions; this includes the hardware and software used for funds transfer identifiers.
 - Home banking automated teller machines to consumers.
 - Sell excess data processing and transmission facilities capacities and also the by-products of the permissible data processing and software activities such as data or data processing techniques.

- (This decision is being contested by ADAPSO.)
- These definitions are broader than those used by INPUT for the selection of markets for Crocker National Bank, which were:
 - Eighty percent of the business must be banking, finance, or related services or products.
 - Turnkey business with more than 20% hardware content excluded.
 - Revenues over \$10 million.

C. SUBSEGMENT SELECTION

- Within each of the two market segments defined by CNB (banking applications and services, all other financial applications), 20 subsegments were examined that are characterized by specialty applications such as:
 - Accounting applications.
 - Financial analysis applications.
 - Economic and statistical analysis applications.
 - Data processing facilities management.
 - ATM network services, etc.
- This was ordered by page two of CNB's RFP dated April 13, 1983.

- Each subsegment was analyzed for high growth, market size, service delivery mode (e.g., timesharing, batch processing services, application software products, facilities management, turnkey systems), availability of the vendors in that subsegment, and relevance to the banking industry (in view of the Federal regulations/limitations).
- This resulted in the elimination of 12 of the 20 subsegments for a variety of reasons which are summarized in Exhibit I-1.
- In one case a very large banking-related service (payroll) was eliminated since there are no reasonable acquisition candidates. All other subsegment eliminations were due either to the lack of acquisition candidates, services not obviously related to banking, integration of the service with another service, or high hardware content.

D. COMPANIES DISCARDED

- The rationale for discarding companies that otherwise qualified according to the basic criteria included:
 - Company not available due to recent acquisition (recently acquired by a large concern or by a company building a position in that industry (e.g., Software International purchased by General Electric, McCormack and Dodge purchased by Dun and Bradstreet, Data Processing of the South purchased by EDS)).
 - Company not available due to financial strength of parent (e.g., GESCO owned by Guarantee Financial Holdings, Affiliated Computer Systems owned by Mercantile Texas, CompuServe owned by H&R Block, First Data Resources owned by American Express).

EXHIBIT I-1

SUBSEGMENTS | DISCARDED

SUBSEGMENT	REASON FOR DISCARD
Payroll Services	Lack of available acquisition candidates
ATM Network Services	Few acquisition targets; vulnerable due to market explosion
Credit Union Services	Credit unions very cost conscious (low margin business) and low quality people in the branches
Automotive Dealer Accounting	High hardware content (30-40%)
Data Base Software Products	Not obviously related to banking/finance (e.g., RTI)
Foreign Exchange	Becoming an integral part of other quotation services, (e.g., Telerate)
Software Publishing	Not obviously related to banking/finance (e.g., Softsel)
Tax Processing Services	Most of the major vendors unavailable for acquisition (except one, retained)
Claims Payment Services (Insurance and Health Care)	Not obviously related to banking/finance
News Data Base Services	Not obviously related to banking/finance (e.g., Dow Jones News, Rendors, The Source)
Econometric Data Bases	All major potential candidates apparently unavailable (e.g., DRI, Chase/IDC)
Profit Management Products	Not obviously related to banking/finance

- Other companies, strongly involved in banking and financial markets, were discarded because of:
 - Significant involvement in nonbanking areas (e.g., Rand Information Services).
 - Weak financial performance and/or weak management (e.g., Bradford National).
- Some isolated companies were retained even though their profile did not clearly match any of the subsegments selected. This was usually done because the overall profile of the company was attractive enough to warrant consideration.

II BANKING AND FINANCE APPLICATIONS SUBSEGMENTS CHOSEN

II BANKING AND FINANCE APPLICATIONS SUBSEGMENTS CHOSEN

A. SUMMARY OF SUBSEGMENTS CHOSEN

- Over 300 vendors offer computer services and software products to the banking industry, most specializing in one or more of the following areas:
 - Loan servicing/processing.
 - Financial management and planning systems (FMPS).
 - Credit/check authorization services.
 - Securities quotation services.
 - Trust processing services (on-line trust management).
 - Centralized customer information systems (CCIS).
 - Commercial banking/correspondent banking.
 - Cash management services.
- A summary of the market sizes and growth rates from 1982 to 1987 is shown in Exhibit II-1.

EXHIBIT II-1

SUMMARY OF EIGHT KEY BANKING/FINANCE SERVICE SUBSEGMENTS

HIGH GROWTH/HIGH VOLUME SUBSEGMENTS	SERVICE DELIVERY MODE			SUB- SEGMENT SIZE 1982 (\$ millions)	1982-1987 ANNUAL GROWTH RATE
	BATCH PROCESSING	ON-LINE PROCESSING	SOFTWARE PRODUCTS		
Loan Servicing/Processing	X	X	(X)	300	22%
Financial Management and Planning Systems (FMPs)	(X)	X	X	729	30
Credit/Check Authorization Services		X		320	25
Securities Foreign Exchange/Financial Instruments Quotation Services		X		350	28
Trust Processing Services	(X)	X	(+)	220	30
Centralized Customer Information Systems (CCIS)		(X)	X	(X)	180
Commercial Banking/Correspondent Bank Services		X	X	X	170
Cash Management Services		X	(+)	315	27

X = Primary Delivery Mode, (X) = Secondary Delivery Mode, (+) = Minor Delivery Mode

B. LOAN SERVICING/PROCESSING

1. DEFINITION

- Loan servicing/processing includes mortgage loans, personal loans, installment loans, and commercial loan processing.

2. MARKET SIZE AND TRENDS

- Eighty percent of the computer services activities relate to mortgage loans. In 1982 the total market for these services was \$300 million and grew at 22% from 1981 to 1982. The market is predominantly for on-line services with secondary markets in software products and batch services.
- This market has seen many new developments in 1982 including joint ventures between S/Ls, and software product marketing programs by S/Ls. The market is highly fragmented.

3. COMPETITION

- The top five suppliers in the subsegment and their market shares are as follows:

<u>Number</u>	<u>Vendor</u>	<u>Revenue (\$M)</u>	<u>% Market Share</u>
		<u>1982</u>	
1	Computer Power	24	8
2	Kirchman	6	2
3	Automatic Data Processing	5	2
4	Remote Computing Corp.	4	1
5	Data Link	4	1

4. RECOMMENDED ACQUISITIONS

- The key acquisition targets are:
 - Computer Power: currently owned by Chase Manhattan, the company would no doubt need a good reason for swapping parents. However, the company is profitable, is growing rapidly, and runs autonomously (all desirable characteristics for CNB).
 - Kirchman: another tough negotiation, but here CNB might argue that accepting CNB as a parent (i) would provide the financial backing nearly all of the others software companies have, (ii) would allow them autonomy of operations, which another parent might not, and (iii) would deter further suitors (which Kirchman is flooded with).
 - Systematics: an excellent alternative to Kirchman with strong deposit, loan, in-bank, on-line systems.
 - Tymshare: this would include only certain divisions. Tymshare has become too diversified and needs to concentrate on a narrower set of service markets.

C. FINANCIAL MANAGEMENT AND PLANNING SYSTEMS (FMPS)

I. DEFINITION

- FMPS are essentially tools that forecast financial planning data using models, theories, or formulas. They are used for "what-if" planning, five-year plans, budgeting, and tactical/strategic decision making.

2. MARKET SIZE AND TRENDS

- The systems offered today are primarily (i) on-line, time-sharing services and (ii) software products. The market was worth \$729 million in 1982, a growth of 33% from 1981, as shown in Exhibit II-2.
- In 1982 FMPS provided 7% of the total remote computing market and 8% of the application software products market.

3. COMPETITION

- The main service vendors are all timesharing service suppliers, as shown in more detail in Exhibit II-3.

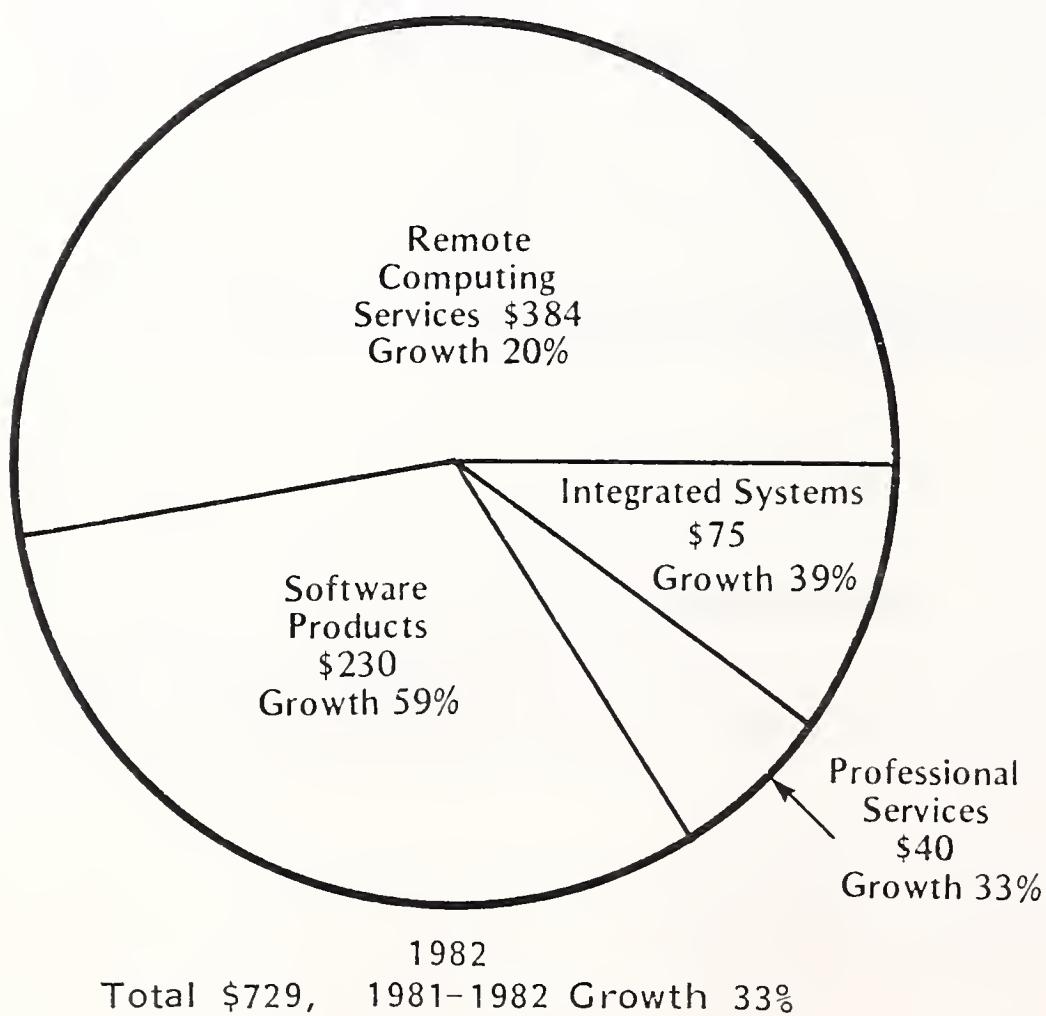
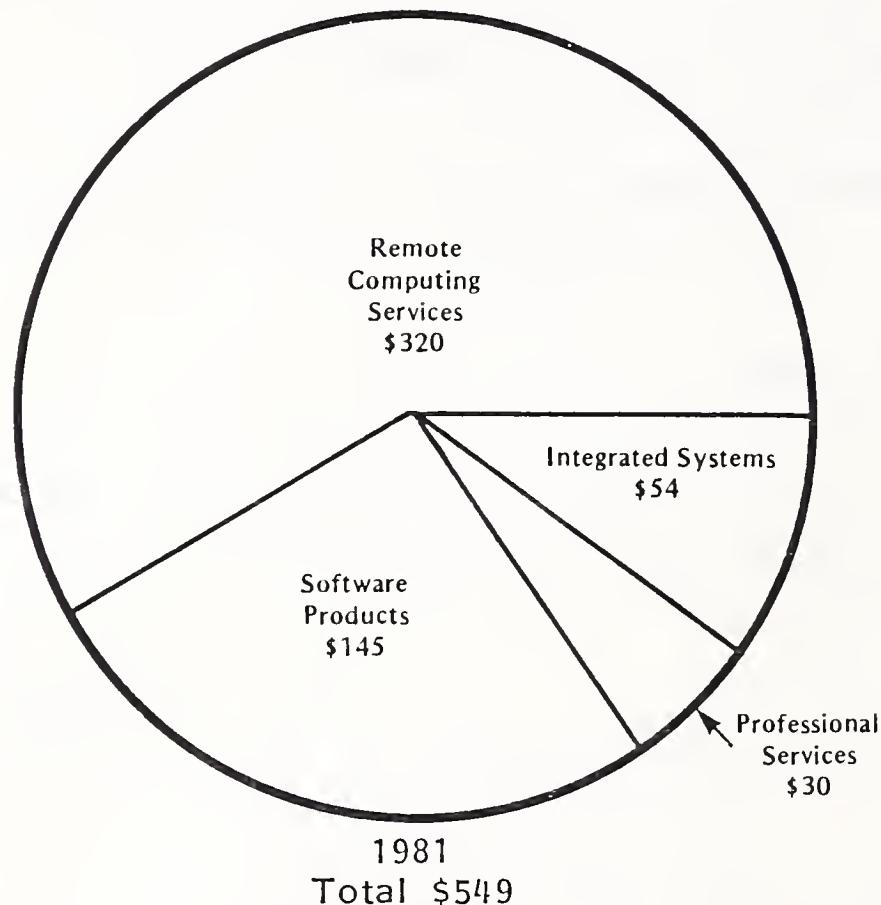
<u>Number</u>	<u>Vendor</u>	<u>Revenue (\$M)</u>	<u>% Market Share</u>
		<u>1982</u>	
1	General Electric		
	Information Services	72	14
2	Control Data Corporation	47	8
3	Automatic Data Processing	26	5
4	Data Resources Inc.	23	4
5	International Data Corporation (Chase)	20	4

4. RECOMMENDED ACQUISITIONS

- The key acquisitions are:
 - a. Software products.
- Execucom: a very rapidly developing company with an excellent market reputation.
- ISSCO: same profile as Execucom.

EXHIBIT II-2

GROWTH OF FINANCIAL MANAGEMENT AND
PLANNING SYSTEMS EXPENDITURES FOR
COMPUTER SERVICES BY DELIVERY TYPE: 1981-1982
(\$ millions)



**MARKET SHARE OF LEADING FINANCIAL MANAGEMENT AND PLANNING SYSTEMS
VENDORS BY SERVICE TYPE: 1982**

VENDOR	SERVICE TYPE						TOTAL REVENUES (\$ millions)	MARKET SHARE (percent)
	REMOTE COMPUTING SERVICES	SOFTWARE PRODUCTS	PROFESSIONAL SERVICES	INTEGRATED SYSTEMS	REVENUES (\$ millions)	MARKET SHARE (percent)		
GEISCO	\$84	22%	—	—	\$2.8	7%	—	—
CDC	53	14	—	—	2.0	5	—	55.0
ADP	31	8	—	—	1.2	3	—	32.2
McGraw-Hill (DRI)	23	6	—	—	3.2	8	—	26.2
Chase (IDC/CEA)	21	6	—	—	2.8	7	—	23.8
COMSHARE	19	5	—	—	1.2	3	—	20.2
VisiCorp	—	—	\$25.0	11%	—	—	—	25.0
EXECUCOM Systems Corp.	—	—	18.0	8	2.8	7	—	20.8
EPS	—	—	16.0	7	2.0	5	—	18.0
MDSI	—	—	14.0	6	2.8	7	—	16.8
Ferox Microsystems	—	—	7.0	3	—	—	—	7.0
Phase One Systems	—	—	6.8	3	—	—	—	6.8
Saddlebrook Corporation	—	—	—	—	—	—	\$19.5	26%
Shared Medical Systems	—	—	—	—	—	—	4.5	4.5
CPA Firms (9)	34	9	—	—	13.2	33	—	47.2
All Others	119	30	143.2	62	6.0	15	51.0	68
Total	\$384	100%	\$230	100%	\$40.0	100%	\$75.0	100%
							\$729.0	100%

- Kirchman: an excellent acquisition target with enormous potential. The company is strongly directed and has well-established software products.
- Management Science America: excellently run, very strong management, reputation and growth; twice the size of Kirchman.
- SAS Institute: an alternative to Execucom or ISSCO.

b. Processing services.

- Comshare: has had a difficult time recently but is an excellent company with very capable management.
- National Data: excellent company with good presence in four of the eight subsegments.
- Ross Systems: a small, well-run company with excellent growth potential.
- Tymshare: as mentioned, only certain divisions.

D. CREDIT CHECK AUTHORIZATION SERVICES

I. DEFINITION

- This is a rapidly growing, on-line services subsegment, but much of the market is still manual (e.g., by phone with authorization numbers assigned). Includes business credit, consumer credit, check authorization and check guarantee services, and credit card processing.

2. MARKET SIZE AND TRENDS

- The market is rapidly being concentrated into the hands of very few vendors. It was worth \$320 million in 1982 and is growing at 28% per annum. It is entirely a consumer-driven market (i.e., is dependent on the rate of consumer spending).

3. COMPETITION

<u>Number</u>	<u>Vendor</u>	Revenue (\$M) <u>1982</u>	% Market Share
1	TRW Credit Services	70	22
2	Telecredit	58	18
3	First Data Resources	45	14
4	Associated Credit Services (CSC)	28	9
5	National Data	26	8

4. RECOMMENDED ACQUISITIONS

- The key acquisitions are:
 - Part of Anacomp: Anacomp should not be in this market nor has Anacomp established its image.
 - Computer Science Corporation: the above comment applies more so to the Associated Credit Services subsidiary of Computer Science Corporation. CSC is a professional services company.
 - National Data: as mentioned, an excellent company with good presence in four of the eight subsegments.
 - Telecredit: a phenomenal company that practically created the check guarantee and clerk authorization business singlehandedly. Well worth a determined approach.

- Tymshare: parts of Tymshare added to part of CSC and part of Anacomp could create a viable alternative to Telecredit.

E. SECURITIES QUOTATION SERVICES

1. DEFINITION

- Includes stock quotation, securities quotation, money market funds listing, precious metals, futures, options and foreign exchange. These services are almost exclusively sold as on-line facilities management contracts.

2. MARKET SIZE AND GROWTH

- The top five vendors accounted for sixty-five percent of the subsegment expenditures in 1982. The total market for these sources was \$350 million in that year. In that year the market grew 32% with the top vendor (QUOTRON) growing 39%.
- The second largest vendor (Telerate) is growing even faster. The market growth over the next five years is conservatively estimated to be 28% per annum.

3. COMPETITION

- The top five vendors in this subsegment are:

<u>Number</u>	<u>Vendor</u>	Revenue (\$M)	% Market Share
		<u>1982</u>	
1	Quotron	110	31
2	Telerate	42	12
3	GTE Telenet	37	11
4	Reuters	26	7
5	Bunker Ramo	15	4

4. RECOMMENDED ACQUISITIONS

- The most attractive company, Telerate Systems Inc., has a very high valuation (\$880 million) and the closely held stock. However, even a minority holding would be an excellent investment in a company that has not even begun to leverage its services (e.g., through word processing, electronic mail, and other office services for the more than 8,000 terminal users it has on-line).
- Quotron is another, possibly even more expensive, Telerate. The company shares are available at a price, however.
- Of the remaining three service vendors, GTE Telenet Financial Services Division is not in the mainstream of GTE's business. With the deregulation of the telephone system, GTE might be persuaded to divest itself of the quotation service.
- Bunker Ramo's service is really too small to be of significance to it (and the same can be said of ADP's quotation service). The attraction of the quotation service business to these companies is the access to the information on the flow of funds.

F. TRUST PROCESSING SERVICES

1. DEFINITION

- Includes trust account administration (asset position, transactions, etc.), security and income processing, and investment management (portfolio analysis).

2. MARKET SIZE AND TRENDS

- Target market is defined as those 1,550 U.S. trust departments that manage over \$10 million in assets. Total 1982 computer services market value is estimated to have been \$220 million. Growth is currently at 35% per annum.
- The market is mainly for on-line services (either computer service or in-house) with minor software product sales. The competition from in-house processing is high, both for in-house bank requirements and correspondent banks.

3. COMPETITION

- The top five vendors of service are:

<u>Number</u>	<u>Vendor</u>	<u>Revenue (\$M)</u> <u>1982</u>	<u>% Market Share</u>
1	SEI Corporation	40	18
2	Bradford National	13	6
3	National Computer Systems	13	6
4	Automatic Data Processing	11	5
5	NMF Incorporated	8	4

4. RECOMMENDED ACQUISITIONS

- The most attractive candidate by far is SEI Corporation. SEI is a very attractive target for its banking service image, its growth, and its profitability.
- Second in line would be part of Comshare, which was discussed in section C of this chapter.
- Bradford National: although Bradford has a substantial presence in this market, it is not considered a target because of the undistinguished performance of the company over the last three years, its poor management, and its peculiar mix of revenue sources.
- ADP may be open to discussion on the divestiture of its trust services division (although this appears unlikely).

G. CENTRALIZED CUSTOMER INFORMATION SYSTEMS (CCIS)

I. DEFINITION

- Includes continuous integrated customer information systems (real-time customer status updating of all banking transactions as they occur, 24 hours/7 days) and other customer information/reference file management systems.

2. MARKET SIZE AND GROWTH

- CCIS generated \$180 million in 1982 and is growing at 38% per annum. The market is predominantly for software products and processing services.
- Subsegment share is fragmented and subject to vendor product development (e.g., the availability of a new product such as ANACOMP's CIS can suddenly add \$15 million per year new business to the overall market).

3. COMPETITION

- The top five vendors are:

<u>Number</u>	<u>Vendor</u>	Revenue (\$M) <u>1982</u>	% Market Share
1	Automatic Data Processing	22	12
2	Systematics	12	8
3	Kirchman	14	9
4	Anacomp	12	8
5	National Sharedata	10	7

4. RECOMMENDED ACQUISITIONS

- The most attractive acquisition is Hogan Systems. The high multiple the company currently exhibits is misleading since the growth of the company will make it look cheap in a very short time. The company has captured the attention of the marketplace and is bound to be the subject of an acquisition or merger in the coming years.
- Systematics is active in three of the subsegments identified by INPUT. The company has an attractive business mix of both on-line processing services and facilities management (long-term) contracts.
- Kirchman is an excellent acquisition target - well-directed with well-established software products.

H. COMMERCIAL BANKING/CORRESPONDENT BANKING

1. DEFINITION

- Services include deposit systems, financial management (general ledger, budgeting, cost allocation, etc.), payroll, labor distribution, and project control.

2. MARKET SIZE AND TRENDS

- Principal targets are the 14,500 commercial U.S. banks and their correspondents.
- In 1982 these services generated \$170 million and grew 24%. The market is evenly divided between on-line services provided under facilities management contracts and software products sold to banks for either in-house use or service to correspondent banks.
- The principal attraction of this sector is that it is a natural service for a bank to perform, particularly correspondent bank services.

3. COMPETITION

- The top five vendors in this subsegment are:

<u>Number</u>	<u>Vendor</u>	Revenue (\$M) 1982	% Market Share
1	Systematics	34	20
2	Automatic Data Processing	25	15
3	Kirchman	22	13
4	Anacomp	8	5
5	Hogan Systems	7	5

4. RECOMMENDED ACQUISITIONS

- All of the recommended companies have already been analyzed:
 - Systematics: active in three subsegments, has an attractive business mix of both on-line processing services and facilities management products.
 - Kirchman: enormous potential, has well-established software products.
 - Hogan Systems: has the attention of the marketplace; bound to be the subject of an acquisition or merger in the coming years.
- It is unlikely that Anacomp would agree to divest itself of what has been its most successful new vertical market products (CIS, CI/F and CIBS).

I. CASH MANAGEMENT SERVICES

1. DEFINITION

- These services and systems provide information on cash balances and transactions. The most common features are listed in Exhibit II-4.

2. MARKET SIZE AND GROWTH

- These services generated \$315 million in 1982 and are expected to grow at 30% per annum. The market is almost exclusively on-line services, and all of the top five vendors are remote computing service vendors.
- A secondary market exists in the sale of software products to in-house bank IS departments. The need for such services is shown in Exhibit II-5, which

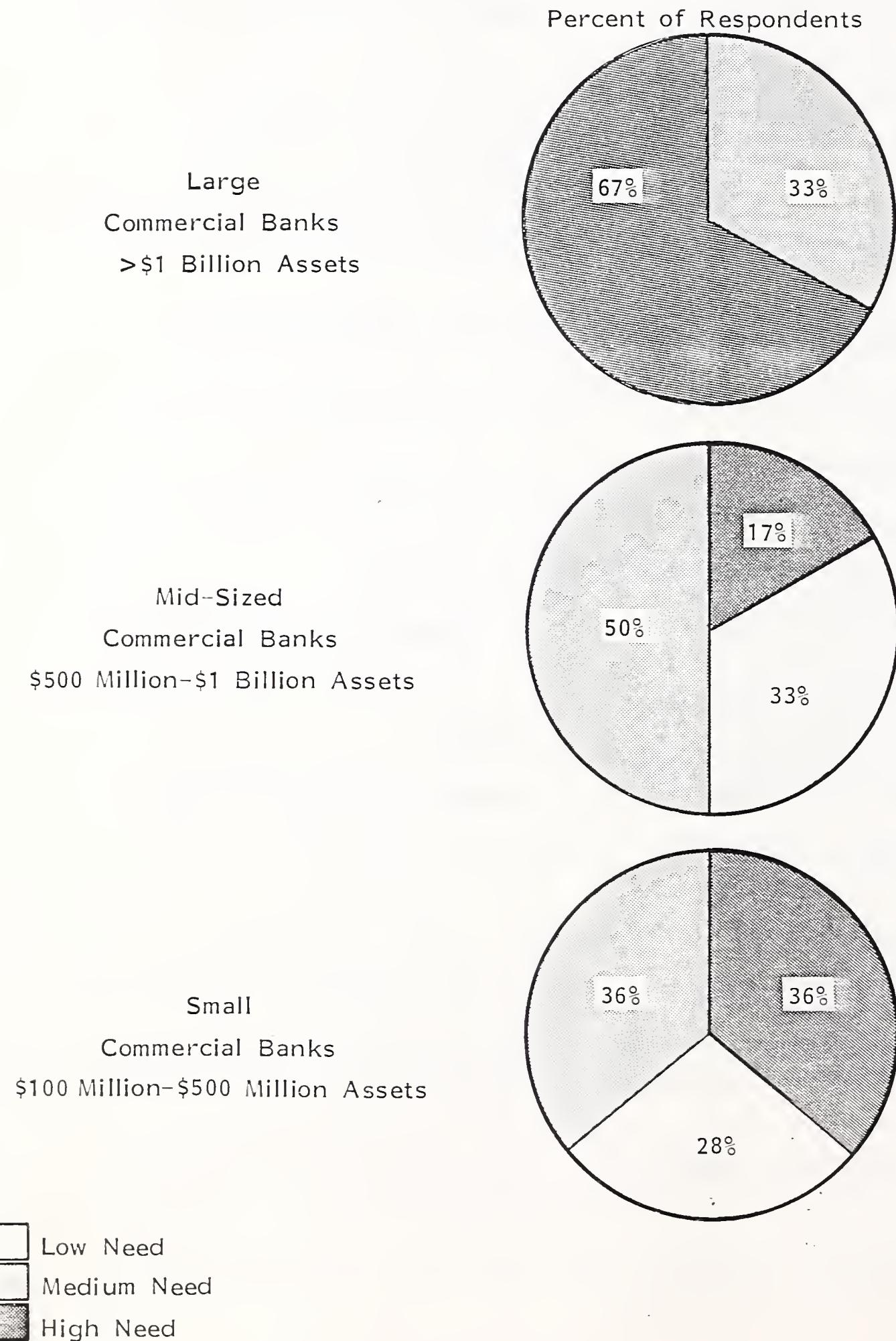
EXHIBIT II-4

FEATURES OF CASH MANAGEMENT INFORMATION SYSTEMS

INFORMATION
<ul style="list-style-type: none">● Detail on debits and credits for payments and security transactions, yesterday and/or today (for certain items)● Advice for certain transactions (e.g., money transfer or foreign exchange)● Balances from one or a group of banks that serve a corporation● Target balance adjustments● Details on product processing (e.g., for zero balance, lockbox)● Historical reports on payments or schedules● Scheduled changes in security accounts (e.g., for next 30 days)● Transaction prices
ACTIONS
<ul style="list-style-type: none">● Ability to display or select information on the basis of amount● Transaction input for money transfer or depository transfer check● Data exchange with other banks or other bank systems● Adjustments between accounts and/or investment of net amounts● Investment of calculated or target amounts
INPUT
<ul style="list-style-type: none">● Touch tone, terminal, high speed, voice, special terminal
OUTPUT
<ul style="list-style-type: none">● Terminal, TWX/telex, printer generated voice, high speed

EXHIBIT II-5

NEED TO OFFER CASH MANAGEMENT SYSTEMS



classifies the responses from a recent INPUT study on cash management systems by size of bank.

3. COMPETITION

- The top five vendors in this subsegment are:

<u>Number</u>	<u>Vendor</u>	<u>Revenue (\$M)</u>	<u>% Market Share</u>
		<u>1982</u>	
1	National Data	32	10
2	International Data Corporation (Chase)	18	6
3	General Electric Information Services Co.	15	5
4	First Data Resources	15	5
5	Automatic Data Processing	13	4

4. RECOMMENDED ACQUISITIONS

- This service subsegment is beginning to expand rapidly now that banks are required to pay interest on checking accounts. It is an ideal service for a bank to provide to correspondent banks as well as to large corporation clients.
- The software ability can be purchased on the open market, and no acquisition is necessary for that. In terms of business revenue acquisition, National Data is the ideal target, being the largest vendor in the U.S. market (and active in other subsegments).
- ADP has a capability in this area which can be examined also; ADP has been known to divest operations that do not fit with its organization.

III ACQUISITION STRATEGY RECOMMENDATIONS

III ACQUISITION STRATEGY RECOMMENDATIONS

A. INTRODUCTION

- In today's computer service market, it is unrealistic to expect to choose high growth, vertical market service areas with clean application definition and find a long list of eligible acquisition targets available at reasonable prices. The amount of acquisition activity in the computer services industry has reached an unprecedented level with 138 mergers or acquisitions taking place in 1982 alone for a value of \$436 million, as shown in Exhibit III-1.

B. ACQUISITION OPTIONS

- The options open to CNB's client result from two considerations:
 - The goal that CNB's client chooses to pursue in the computer services industry (e.g., choosing a vertical market or a combination of vertical markets).
 - The method by which the goal is to be achieved (e.g., buy a large company in any of the vertical markets and add smaller companies in the other vertical markets chosen).

EXHIBIT III-1

**COMPUTER SERVICES INDUSTRY
MERGERS AND ACQUISITIONS
HISTORICAL GROWTH: 1980-1982**

ITEM	1980	1981	PERCENT GROWTH (Decline)	1982	PERCENT GROWTH (Decline)
Total Dollar Value (\$ millions)	\$688.4	\$765.6	11%	\$435.9	(43%)
Number of Deals	87	118	36%	138	17%
Average Transaction (\$ millions)	\$7.9	\$6.5	(18%)	\$3.2	(51%)
Median Transaction	\$1.4	\$1.5	7%	\$1.2	(20%)

- The first consideration must ultimately be answered by CNB's client itself. INPUT can make the following recommendations, however:
 - Some of the subsegments chosen are easier to enter than others. In particular, Trust Processing Services would be difficult to enter unless CNB succeeds in acquiring for its client one of the small number of key candidates. Financial management and planning systems is far easier to enter since a very large number of vendors participate in the subsegment.
 - Subsegment size should not be a determining factor since a market is largely what you make it, not what others have made it. This is particularly true in the banking and finance application area where new services and products are constantly creating markets almost overnight.
 - Similarly, growth rate must not be taken at face value. While it is often feasible to exceed the subsegment growth rate by accurate product/service positioning, it is also easy to do far less by misdirecting marketing and sales efforts.
- The second consideration (method of achieving the chosen goal) is most easily discussed when the goal is known. CNB's client has yet to make that decision, but again INPUT can make some recommendations that will apply to whatever goal is chosen:
 - Buying a large company is attractive since the company will have a mature organizational structure, good knowledge of its market and competition, and will usually have a market reputation that can be leveraged.
 - Buying several small companies spreads the risk but also increases the degree of risk since management quality may be uneven and driven only by short-term gain; a purchase by CNB's client might signal the end of

acquired company's incentive. On the other hand, the addition of a financially strong parent could have tremendous positive impact and propel a good small company into a rapid-growth, medium-sized company very quickly. If care is taken in selecting several small companies with a high degree of synergy, the results would be exceptional (this is very difficult to achieve in practice, however).

C. RECOMMENDATIONS

- INPUT recommends that CNB's client purchase several small companies with strong management and good products. The companies, synergistic or not, should be active in either a large market, e.g., financial management and planning systems, or high growth, e.g., securities/foreign exchange/financial instrument quotation services.
- Companies that look expensive now, may in fact be very cheap. For example, Hogan Systems (current market valuation \$240 million) looks expensive on current earnings but could be cheap based on revenue and earnings expectations in 1983 and certainly cheap based on 1984 planned revenue and earnings.
- The financial management and planning systems subsegment is the safest bet: it is the largest, most mature, and among the fastest growing of all eight subsegments chosen. In addition, several acquisition options are open.
 - Best buy: National Data.
 - Second best: Execucom.
 - Backup: Ross Systems.

- Credit/check authorization services is a strategic market for years to come (consumer databanks) and one which can be supplemented with other banking services (e.g., expedited clearances for business transactions).
 - Best buy: National Data.
 - Second best: Associated Credit Services from CSC.
 - Backup: Parts of Tymshare and/or Anacomp.
- Centralized Customer Information Systems is another strategic market for future development (consumer databanks) that could dovetail with credit/check authorization services.
 - Best buy: Hogan Systems.
 - Second best: Systematics.
 - Backup: None.
- Correspondent banking services offer good opportunities, particularly if the services are purchased as a by-product of another company purchase, e.g.:
 - Systematics.
 - Hogan Systems.

D. SPECIAL CASES

- Kirchman (Florida Software Services) is the archetype of the surviving private corporations that serve vertical markets and are growing very rapidly. To date, acquisition approaches have been rebuffed.
- This may make the company look unattainable, but if a progressive acquisition is offered (initial minority participation, gradual increase of ownership) or other imaginative approach offered, CNB's client might be successful. Certainly, once the link is established, it would eliminate a lot of the pressure on Kirchman.
- Other companies, such as Quotron and Telecredit, have established dominant positions in their markets and look very expensive. However, it is not often that an acquiror is offered the opportunity of entering a market at the top of the stack with excellent earnings potential to boot. In this light the two companies merit review.

E. LEVERAGE OF INFORMATION RESOURCES

- A significant factor has emerged that is common to many of the rapid growth services companies: they leverage the information resources that they require as part of the services that they offer to the marketplace. For example, Transamerica offers a title insurance service which requires a data base of property values currently covering many millions of California residences. The largest single asset an individual usually owns is his house. This data plus other relevant details acquired in the process of the title insurance business forms the core of what a credit reporting service requires.
- The acid test for such leveraging operations is:

- Do we acquire at least 50% of the information needed for the new service as part of our ongoing operations?
- Will the new service materially add to the strength of our ongoing business (e.g., complement the services we provide or add information which can be the basis for even further services?)

IV ACQUISITION CANDIDATES

IV ACQUISITION CANDIDATES

- A total of 26 companies has been selected, based on the criteria given by CNB.
- Exhibit IV-1 summarizes these companies in relation to their activities in eight subsegments chosen by INPUT. Each company is then discussed in detail in a company highlight, which appears in alphabetical order in this section, and provides an analysis of revenue and net income performance to date, products and services, geographic markets, and other essential company data. The most recent data available has been used, supplemented by INPUT estimates where data was not available.

EXHIBIT IV-1

SUMMARY OF CANDIDATES CHOSEN

COMPANY	Loan Servicing Processing	Financial Planning Systems	Credit/Check Services	Securities Quotation Services	Trust Processing Services	Customer Information Systems	Commercial/ Bank Correspondent Services	Cash Management Services
ANACOMP		O			S	S		
Automatic Data Processing	B	O,S		O	O,B	O	B	O
Computer Associates/ CAPEX		S						
Computer Language Research								
Computer Power	O,S		O					
Computer Sciences		O	O					
Comshare		O			O			
Execucom		S						
GTE Telenet				O				
Hogan Systems		S				S	S	
ISSCO		S						
Kirchman	S,B	S,B				S,B	S	
Management Science		S						
Monchik Weber				S,O			S,O	
National Data		O	O				O	O
Quotron				O				
Reuters				O				
Ross Systems		O,S						
SAS Institute		S						
SEI					F,O			
Systematics	O,F					F,O	F,O	
Telecredit			O					
Telerate				O				
Time Sharing Resources		O	O	O			O	
Tymshare	O	O	O	O			O	O
UCC/Wly						S	S	

B = Batch Processing, O = On-line Processing, S = Software Products, F = Facilities Management

COMPANY HIGHLIGHT

ANACOMP, INC.
11550 North Meridian Street
Suite 600
Carmel, IN 46032
(317) 844-9666

Ronald D. Palamara, President
and Chairman of the Board
Public Corporation, OTC
Total Employees: 2,300
Total Revenues, Fiscal Year End
6/30/82: \$109,599,000
Market Value: \$248 million

THE COMPANY

- Anacomp was founded in 1968 in Indiana by a group of professors and consultants from Purdue University. Its original business involved creating and marketing instruction tapes and cassettes and providing some on-line data processing services. It has operated as a public company since 1969.
- Through an aggressive acquisition program, Anacomp has expanded its services to include software development, on-line processing services, facilities management, micrographics services, professional services, and turnkey systems. These are offered primarily to the financial community, state and local governments, and commercial clients.
- Anacomp reported fiscal 1982 revenues of \$109,599,000, a 3% increase over 1981 revenues of \$106,368,000. (There were no acquisitions.) Anacomp's five-year compounded annual growth rate has been 49%. A five-year financial summary follows:

ANACOMP, INC.
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Revenues		\$ 109,599	\$ 106,368	\$ 71,643	\$ 41,662	\$ 23,433
• Percent increase from previous year		3%	48%	72%	78%	45
Income before taxes and extraordinary item		\$ 3,622	\$ 13,997	\$ 8,247	\$ 5,274	\$ 3,155
• Percent increase (decrease) from previous year		(74%)	70%	56%	67%	29
Net income		\$ 4,609	\$ 7,938	\$ 4,900	\$ 2,073	\$ 1,558
• Percent increase (decrease) from previous year		(42%)	62%	136%	33%	31
Earnings per share		\$ 0.48	\$ 0.83	\$ 0.69	\$ 0.53	\$ 0.32
• Percent increase (decrease) from previous year		(42%)	20%	30%	66%	21

- In 1982 Anacomp completed acquisition of DSI, making it the national leader in micrographics with centers in 62 cities in the U.S.
- Revenue from COM Services was flat in 1982, while banking-related software and services added \$3.5 million.
- Anacomp is divided into two general business areas, Computer Services and Micrographics.
 - Computer Services revenues, which include all software, professional services, facilities management and data processing, grew 9% in 1982 to \$42.2 million. Its five-year compounded growth rate has averaged 44%. Pretax profits from computer services were 10% in 1980.
 - Data Center Services revenues, which include computer output microfilm, microfilming and micropublishing, were flat in 1982 at \$67.4 million. Its average compounded growth rate for the last five years has been 72%. Micrographics contributed 47% of Anacomp's income before taxes, and recorded pretax profits of 16%.

ANACOMP, INC.

- A five-year summary of Anacomp's revenues and pretax income by business segment follows:

**ANACOMP
REVENUE BY BUSINESS SEGMENT
(\$ thousands)**

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Computer Services					
. Revenue	\$ 42,181	\$ 38,469	\$ 28,924	\$ 18,008	\$ 12,525
- Percent increase from previous year	10%	33%	61%	44%	13%
. Income before taxes	\$ 3,947	\$ 10,953	\$ 4,779	\$ 3,077	\$ 2,566
- Percent increase from previous year	(64%)	129%	55%	20%	37%
Data Center Services					
. Revenue	\$ 67,418	\$ 67,899	\$ 42,719	\$ 23,654	\$ 9,094
- Percent of increase from previous year	N/A	59%	81%	160%	77%
. Income before taxes	\$ 8,504	\$ 7,355	\$ 6,070	\$ 3,985	\$ 611
- Percent increase from previous year	16%	22%	54%	550%	19%

- Major fiscal 1979 acquisition activity:

- Sci-Tek Associates, Inc., based in Boston (MA), was acquired in August 1978 for \$128,000 in cash. 1978 revenues were \$741,040, with losses of \$85,185. Sci-Tek provides facilities management and computer professional services to state and local governments.

ANACOMP, INC.

- Escom, Inc., based in Seattle (WA), was acquired in September 1978 for \$450,000. 1978 revenues were \$4,961,042, with losses of \$367,639. Escom provides software, turnkey systems, processing services, and professional services in the Pacific Northwest.
- Computer Services Corporation, based in Detroit (MI), was acquired in October 1978 for \$952,322 in cash. 1978 revenues were \$3,581,600, with a profit of \$80,600. Computer Services Corporation is a major supplier of on-line data processing services to credit unions in the Midwest.
- Access Data Systems, Inc., based in Phoenix (AZ), was acquired in January 1979 for \$450,000 in cash. 1978 revenues were \$1,499,954, with profits of \$76,605. Access Data Systems, formerly a subsidiary of URS Corporation, provides processing services to credit unions in the Southwest and Rocky Mountain areas.
- ERCO, Inc., based in Dayton (OH), was acquired in March 1979 for \$500,134 in cash. 1978 revenues were \$1,550,937, with losses of \$119,768. ERCO, formerly owned by Cube, an NCR credit union subsidiary, provides credit union processing in Ohio and the District of Columbia.
- Wachovia Services, Inc., based in Winston-Salem (NC), sold part of its assets to Anacomp in October 1978 for \$3,300,000 in cash. Anacomp now has the right to process certain banking and COM services to Wachovia customers.

- Major fiscal 1980 acquisition activity:
 - Computer Micrographics, Inc., based in Torrance (CA), was acquired in September 1979 for \$11,392,000 in cash and stock. 1978 revenues were approximately \$12 million with a profit of \$551,637. Computer Micrographics operates micrographics service centers in major cities throughout the U.S.
 - Capital Data Prep, Inc., based in Tallahassee (FL), was acquired in July 1979 for \$20,000 in cash. Capital Data provides local data entry services.
 - Cogna Systems Corporation, based in Chicago (IL), was acquired in October 1979 for \$400,000. 1978 revenues were \$8.5 million. Cogna Systems provides software development and professional services to users of large-scale computers.
 - Arthur S. Kranzley and Company, Inc., based in Cherry Hill (NJ), was acquired in April 1980 for \$900,000 in stock. Arthur Kranzley and Company specializes in electronic funds transfer and transaction processing software systems.

ANACOMP, INC.

- SynerGraphics, Inc., based in San Francisco (CA), was acquired in May 1980 for \$10,965,000 in cash and stock. 1979 revenues were \$13.2 million. SynerGraphics, a former Transamerica subsidiary, operates eleven micrographic service centers in major U.S. cities.
- Electronic Data Processing Corporation, based in Detroit (MI), was acquired in December 1979 for an undisclosed amount of cash. 1978 revenues were under \$3 million. EDP Corporation specializes in local credit union and mortgage loan company processing.
- Major fiscal 1981 acquisition activity:
 - Computer Management, Inc., based in Cleveland (OH), was acquired in August 1980 for \$1.4 million in cash and stock. 1979 revenues were approximately \$4 million. CMI provides packaged and custom IBM-based software to manufacturers, government, and banks. Computer output microfilm and micrographics equipment and supplies are also available.
 - Eikon Technology, Inc., based in Manchester (NH) sold a majority interest in one of its division to Anacomp in September 1980. Anacomp transferred the assets of its Radiographix Division to Eikon in exchange for a 57.1% interest in the new company, Eikon Radiographix, Inc. The new company will specialize in the conversion of medical X-rays to diagnostic quality microfiche for storage and retrieval.
 - Microfilm Communications Systems, Inc., based in Denver (CO), signed a letter of acquisition intent in October 1980. 1978 revenues were approximately \$1 million. Microfilm Communications specializes in computer output microfilm to clients in the Denver area.
 - MICRO/LAND Corporation of Cincinnati was acquired in February 1981 for an undisclosed amount of Anacomp stock. MICRO/LAND provides COM services from data centers in Cincinnati, Toledo, Columbus and Detroit and had sales of approximately \$2.5 million in FY 1980.
 - Certain assets of General Computing Corporation, a New York micrographics company, were also acquired in February 1981.
- Major fiscal 1982 acquisition activity:
 - DSI Corporation was acquired in July 1982 for an undisclosed amount of Anacomp stock, DSI operates, COM data centers nationwide.
 - Anacomp acquired from Kalver Corporation its NMI brand reader manufacturing facility.

ANACOMP, INC.

- Anacomp currently has 2,300 employees divided as follows:

Micrographics Division	1,150
Data Services Division	100
Bank Services Division	780
Government Services Division	<u>270</u>
	2,300

KEY PRODUCTS AND SERVICES

- The Data Services Division (DSD) provides its products as software, turnkey systems, or processing services to commercial clients. DSD is built around products developed by Escom, Inc., which was acquired in 1978. Major products include:
 - Manufacturing Management and Control (MMC), a planning and financial control package for small- and medium-sized manufacturers. There are eleven basic modules: engineering, sales order processing, purchase order processing, inventory planning, work-in-process costing, work order launching, shop floor control, accounts payable, accounts receivable, payroll, and general ledger.
 - . MMC is available as a licensed software product for \$30,000. When packaged with a Prime or Microdata minicomputer, the turnkey system sells for \$80,000 to \$200,000. Forty systems have been installed.
 - . DSD provides smaller manufacturers with the MMC product on a timesharing basis.
 - DISTRIBUTE is a financial package for wholesalers and distributors. Modules available include: order tracking, back-order processing, inventory control, accounts payable and receivable, payroll and general ledger.
 - . DISTRIBUTE is available as a licensed software product and sells for \$10,000 to \$20,000. Packaged with Prime or Microdata minicomputers, the system sells for \$60,000 to \$200,000. Seventy-five systems have been installed.

ANACOMP, INC.

- DSD also offers software for construction, forest products, hospital management, medical clinics, and property management.
- In February 1981 Anacomp and NCR Corporation signed a multi-million dollar agreement to develop and implement an interactive hospital information system for a large midwest hospital over the next three years.
- The Financial Services Division (FSD) provides software products to large banks and financial institutions and processing services to smaller banks and credit unions. The division has grown primarily through acquisition.
 - The purchase in 1975 of Electronic Data Preparation Corporation (EDPC) provided the main FSD products. EDPC software was written to operate on NCR Century and Criterion systems only.
 - The major product is Customer Integrated/Referenced File (CI/RF), which integrates all client accounts into a single file. There are twelve modules: certificate of deposit, club savings, commercial checking, current accounts, commercial loan, high interest saving, installment loan, mortgage loan, overdraft checking loan, passbook savings, and personal checking. A foreign exchange module for international banking is under development.
 - CI/RF is available as a licensed software product or as a processing service from three FSD data centers. There are currently over 75 clients.
 - FSD has an agreement with NCR Corporation where NCR markets CI/RF and other products in addition to its computers. This arrangement has been in effect for over five years.
 - Other acquisitions, particularly Cogna Systems and Computer Management, expanded FSD's offerings to include similar products operating on IBM equipment. Currently under development in conjunction with four banks is the Continuous Integrated System (CIS), an enhancement providing real-time updating of file information. CIS will be compatible with most large mainframes. Other products available from FSD include demand deposit accounting, customer information management system (CIMS), descriptive combined statement (Money Manager), charge card, installment loan, retail accounts information, time deposit, floor planning, commercial loan, and Bankserv.
 - With the acquisition of Kranzley and Associates and Computer Management, FSD added products and services in Electronic Funds Transfer (EFT). Three products are available:

- EFT 8300 provides EFT and Automated Teller Machine capability to large-scale IBM machines.
- EFT 8500 is a similar system for Interdata minicomputer installations.
- Customer Oriented Electronic Fund Transfer System (COEFTS) provides on-line remote authorization of credit card and check transactions for ATM and point-of-sale terminals. COEFTS operates on IBM system 360/370 equipment.
- FSD operates the EFT switching systems for the Rocky Mountain Switch in Denver (CO), the Maryland Switch in Baltimore (MD), and the Metroteller Switch in Buffalo (NY).
- FSD became active in the credit union processing area with its acquisitions of Computer Accounting, Access Data, Computer Service Corporation, EDP of Detroit, and ERCO. FSD serves 200 credit unions with interactive processing service from seven data centers. FSD licenses software to credit unions and markets a turnkey system based on Datapoint minicomputers.
- Through its many micrographic centers, Anacomp offers financial institutions full COM, microfilm, and micropublishing services.
- The Government Services Division (GSD) provides facilities management, processing services, and micrographics services to state, county, and local government.
 - GSD currently provides facilities management for the Indiana Department of Revenue and Indiana Department of Motor Vehicles. GSD has software for use by other state government agencies, including Medicare/Medicaid programs, aid to dependent children, and other social service areas.
 - Services to county and local government include a voter registration system, property tax appraisal system, county on-line title system (COLTS), law enforcement information system (SLEUTH), criminal justice system, utility billing system, and fleet management system.
 - Micrographic services are available in many areas for government processing.
- The Micrographics Division provides Computer Output Microfilm (COM), microfilming, and micropublishing to commercial clients. Growth in the Micrographics Division has been mostly through acquisition. Of the 30 existing COM centers, 8 were opened by Anacomp and 22 were added by acquisition. Before consolidation of overlapping centers, the Micrographics Division added 11 locations through the SynerGraphics acquisition, and 10 with Computer Micrographics.

ANACOMP, INC.

- The acquisition of Eikon Technology established Anacomp as a major supplier of X ray minification services to hospitals. X ray minification converts medical and industrial X rays to surgical quality microfiche. The X ray microfiche market has grown as the silver in conventional X rays becomes more expensive.

INDUSTRY MARKETS

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Banking & Financial					
. Revenue	\$49.3	\$45.7	\$27.5	\$14.9	\$5.8
- Percent of total	45%	43%	41%	39%	27%
Government					
. Revenue	\$12.1	\$12.8	\$9.4	\$10.7	\$8.0
- Percent of total	11%	12%	14%	28%	37%
Commercial*					
. Revenue	\$48.2	\$47.9	\$30.2	\$12.6	\$7.8
- Percent of total	44%	45%	45%	33%	36%

* Includes manufacturing, utilities, distribution, medical, insurance and education.

COMPUTER HARDWARE

- The Government Services Division operates facilities management contracts or data centers in Indianapolis (IN), Bradenton (FL) and Ft. Pierce (FL). Equipment in these centers consists of:
 - NCR Century Series systems.
 - NCR Criterion systems.
 - Prime minicomputers.

ANACOMP, INC.

- The Data Services Division uses computers operated by the Financial Services Division for credit union processing.
- The Financial Services Division operates bank data processing centers in Greenfield (IN), San Francisco (CA), and Winston-Salem (NC). Credit union processing is performed in Colorado Springs (CO), Dayton (OH), Flint (MI), Indianapolis (IN), Phoenix (AZ), Sarasota (FL), and Southfield (MI). NCR Criterion systems are used in the bank data centers. Credit union processing is performed on medium-sized Burroughs systems.
- The Micrographics Division operates COM centers in California (9), Connecticut (2), Florida, Georgia (3), Illinois, Indiana, Massachusetts, Minnesota, New Hampshire (2), New Jersey, New York, North Carolina (2), Ohio (4), Pennsylvania, Texas (4), and Washington State. There are 35 centers.

SUMMARY

- Anacomp's banking and finance services orientation has steadily increased and will continue to increase slightly over the next five years. The company needs to decrease its dependence on NCR equipment and increase IBM product reliance since most of the banking and finance prospects are based on that equipment. Company management is aggressively marketing oriented, which bodes well for the future.
- 1983 revenues will be sharply up as software earnings from the new products come on stream and Anacomp's COM services recover from the recession. Additionally a major acquisition is due to take place.

COMPANY HIGHLIGHT

AUTOMATIC DATA PROCESSING, INC.

405 Route 3
Clifton, NJ 07015
(201) 472-1000

Josh S. Weston, President
Public Company, NYSE
Total Employees: 15,000
Total Revenue, Fiscal Year End
6/30/82: \$669,000,000
Market Value: \$1,220 million

THE COMPANY

- Formed in 1949 as Automatic Payrolls Inc., ADP ran a payroll service on unit record equipment until 1961 when it computerized operations and went public. An ambitious acquisition program brought 75 companies (approximately) into the company as well as new business areas such as remote computing, an international network, operations in finance/banking, and services to automotive dealers. Payroll and accounting still provide the major source of ADP's revenue. In September 1981 ADP acquired the payroll processing services of Crocker National Bank. In 1982 acquisitions included Allied Financial Services, National Healthcare Administrators, and parts of Computer Statistics and Rechenzentrum Frankfurt.
- Growth has been regularly over 20% until 1982 when revenue and income grew less than at any time in the last five years.

AUTOMATIC DATA PROCESSING, INC. FIVE-YEAR FINANCIAL SUMMARY (\$ millions)

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	\$ 669	\$ 558	\$ 455	\$ 369	\$ 296	
. Percent increase from previous year	20%	23%	23%	25%	23%	
Net income	\$ 57.8	\$49.3	\$39.9	\$33.5	\$27.7	
. Percent increase from previous year	17%	24%	19%	21%	19%	

- ADP's Network Service group is the result of acquiring Cyphernetics, First Data Corporation, Time Sharing Ltd., and Information Sciences. At the time of acquisition, combined revenue was \$30 million. In 1980 they were \$68 million, 17% up on 1979. Sixty-five percent of revenue is from interactive processing and 35% from remote batch, on-site, and cash management services. The latter is a fast growing segment, with 45 banks handling deposits of \$2 billion per day.

AUTOMATIC DATA PROCESSING, INC.

- Commercial Services has always supplied more than 50% of ADP's revenue. Services include payroll, A/R, A/P, financial statement, tax return, and unemployment insurance handling.
- Financial Services contribute 10% of revenue from securities processing, interest rate futures trading, thrift institutions, and banking services. Growth was slower than in prior years due to brokerage services and banking/thrift operations.
- The dealer services division grew over 15% in 1982, providing accounting and MIS to car, truck, construction equipment, and farm equipment dealers.

INDUSTRY SECTORS SERVED

- The principal industry sectors served by ADP are:
 - Manufacturing (discrete and process).
 - Banking and finance.
 - Distribution (wholesale and retail).
 - Utilities.
 - Medical/hospital.
 - Government.

INTERNATIONAL MARKETS SERVED

- In addition to the 45 sales offices in the U.S., ADP has 25 offices abroad, including London, Rotterdam, Paris, Sao Paulo, Frankfurt, Hamburg, Toronto, Montreal, Vancouver, and Milan. International operations contribute 9% of ADP's revenue of which 90% is from Western Europe. Almost all of these revenues are from remote computing services with the exception of batch service operations in Rotterdam, Frankfurt, and Hamburg.

AUTOMATIC DATA PROCESSING, INC.

HISTORICAL GROWTH BY SEGMENT

<u>Segment</u>	1979 (\$ millions)	1980 (\$ millions)	AAGR (percent)
Commercial services	\$193	\$246	27%
Network services	58	68	17
Financial services	37	47	27
Special industries	<u>77</u>	<u>90</u>	<u>17</u>
Total	\$365	\$451	24%

PROJECTED GROWTH BY SEGMENT

<u>Segment</u>	AAGR (percent)	(actual) 1982	Fiscal Year (\$ millions)			
			1983	1984	1985	1986
Commercial services	23%	\$371	\$455	560	689	847
Network services	13	95	107	121	137	155
Financial services	11	81	90	99	110	123
Special industries	<u>22</u>	<u>122</u>	<u>149</u>	<u>181</u>	<u>221</u>	<u>270</u>
Total company size	20%	\$669	\$801	\$961	\$1,157	\$1,295

1986 MARKET SHARE

- Processing services market: 9%.

POTENTIAL IMPACT OF ECONOMY

- ADP's constant search for compatible acquisition candidates has yielded a regular increase of over 20% in revenue independent of any economy fluctuations. There is every reason to expect this pattern to continue since tight market conditions are an incentive for some of the reluctant acquisition candidates to be more reasonable in their expectations.

POTENTIAL IMPACT OF COMPETITION

- ADP is the market leader in its field with excellent management, technical, and sales teams. It will be extremely hard to dislodge ADP from the top position. No competitive impact foreseen.

AUTOMATIC DATA PROCESSING, INC.

POTENTIAL IMPACT OF TECHNOLOGY

- ADP has been quick to adapt to changes in technology, particularly changes in service delivery mode (e.g., on-site hardware services, ATM networks, and remote desktop payroll data entry). The company has the means to achieve such adaptations as required. No impact foreseen.

SUMMARY

- ADP will continue to be the processing services leader over the forecast period and will act as the bellwether for its market. Its management is one of the strongest in the information services industry.
- The automotive services growth is likely to moderate slightly over the forecast period, but this will be offset by the growth in their new Collision Data service, the Comtrend and Pension Services.

COMPANY HIGHLIGHT

COMPUTER ASSOCIATES INTERNATIONAL, INC.

Computer Associates Building
125 Jericho Turnpike
Jericho, NY 11753
(516) 333-6700

Charles B. Wang, President
Public Corporation, NASDAQ
Total Employees: 327
Total Revenue, Fiscal Year End
3/31/83: \$56,915,000
Market Value: \$221 million

THE COMPANY

- Computer Associates International, Inc. (CA) was incorporated in Delaware in 1974 and commenced business in June 1976. From June 1976 to April 30, 1980 the company operated primarily as a marketing organization in the United States for the software products of Computer Associates International Ltd. (CAI Limited), a Swiss company, and performed product development work. On April 30, 1980, CA acquired substantially all of the assets of CAI Limited, including subsidiaries, and the products previously marketed by CA in the United States on behalf of CAI Limited. The company now designs, develops, markets and supports over 30 systems software, data base management, and application software products.
- CA issued a public offering of 500,000 shares of common stock on October 30, 1981. Prior to this offering, there had been no public market for the common stock of the company. Proceeds from the sale were used to provide working capital and capital for acquisitions. Initially, a portion of the proceeds were used to repay short-term bank indebtedness. In November 1982 a second public offering of 300,000 shares produced \$10 million in net to the company.
- In August 1982 the company acquired CAPEX Corporation (see highlight) through a merger which increased the revenue base by 50%. The company has 20,000 separate licenses with 13,000 customers in 50 countries. Expectations for fiscal 1984 (ending March) are for revenues of \$78 million and net income of \$4.4 million.

COMPUTER ASSOCIATES INTERNATIONAL, INC.

COMPUTER ASSOCIATES INTERNATIONAL, INC.
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM	FISCAL YEAR	Projected 3/83*	3/82	3/81	3/80	3/79
Revenue		\$ 56,915	\$ 28,410	\$ 18,456	\$ 8,806	\$ 6,066
. Percent increase from previous year		N/A	34%	110%	45%	88%
Income before taxes and extraordinary item		\$ 9,244	\$ 4,446	\$ 2,306	\$ 169	\$ 38
. Percent increase (decrease) from previous year		N/A	93%	1,264%	345%	(74%)
Net income		\$ 5,225	\$ 2,427	\$ 1,396	\$ 141	\$ 38
. Percent increase (decrease) from previous year		N/A	74%	890%	271%	N/A
Earnings per share		\$ 1.25	\$.91	\$.54	\$.08	\$.01
. Percent increase (decrease) from previous year		N/A	69%	575%	700%	(66%)

- For its fiscal year end, March 31, 1983, the company incurred product development costs of \$7.9 million or 14% of revenue. For fiscal 1982 these costs were \$6.3 million or approximately 22% of revenue.

KEY PRODUCTS AND SERVICES

- Software product sales represent 100% of CA's revenues. CA offers system software products (primarily utilities) for IBM 360/370/303X/43XX machines. License agreements are in effect for over 13,000 CA packages.
- The primary products of the company, CA-DYNAM/T, CA-SORT and CA-DYNAM/D, represent approximately 75% of the company's installed packages and accounted for about 70% of revenue for each of the last two years.
- A listing of products is provided in the exhibit.
- Products are technically supported initially by the field systems engineers. In addition, CA maintains customer support centers in each of its regional offices in the United States and in most of the foreign countries where the company has subsidiaries. These centers provide technical support by telephone.

*Includes CAPEX

EXHIBIT
SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	NUMBER INSTALLED	PRICE RANGE	OPERATING SYSTEMS(S)
CA-SORT	Sorting System Which Replaces IBM's Sort/Merge	4,700	\$ 3,500-10,500	OS/MVS, DOS/VS(E), VM/CMS
CA-SRAM	Sort System Offering New Design Facilities and Storage Improvement	2,900	\$ 4,500- 6,500	OS/MVS, DOS/VS(E)
CA-DART	Report Generator Attached to CA-SORT or Compatible Sort	200	\$ 5,000- 8,500	OS/MVS, DOS/VS(E)
CA-SORT COMPLETE	Includes CA-SORT, CA-SRAM, CA-DART	—	\$ 8,000-12,500	OS/MVS, DOS/VS(E)
CA-DYNAM/D	Disk Space, Catalogue Management System for Improved Security and Control	1,600	\$ 9,000-11,500	DOS, DOS/VS(E)
CA-DYNAM/T	Tape Library Control System	2,000	\$ 9,000-16,000	DOS/VS(E), OS/MVS
CA-DYNAM/FI	Provides File Independence	530	\$ 3,800- 5,800	DOS/VS(E)
CA-DYNAM/DMF	Controls DASD Space and Data Set Management	50	\$ 8,500-10,500	OS/MVS
CA-DYNAM INTEGRATED MANAGEMENT SYSTEM	Includes CA-DYNAM/D, CA-DYNAM/T, CA-DYNAM/FI	—	\$19,000-22,000	DOS/VS(E)
CA-DYNAM FILE MANAGEMENT SYSTEM	Includes CA-DYNAM/DMF, CA-DYNAM/T	—	\$ 6,500- 8,500	OS/MVS
CA-JASPER/JA	Job Accounting and Billing System	710	\$ 6,430- 9,000	DOS/VS(E), OS/MVS
CA-JASPER/RT	Real-time Performance Monitor	52	\$ 7,000- 9,000	DOS/VS(E)
CA-JASPER/CICS	For Collection, Reporting of Data Describing Transaction Activity and Consumption	New	\$ 6,500- 8,500	DOS/VS(E), OS/MVS
CA-JASPER PERFORMANCE MEASUREMENT SYSTEM	Includes CA-JASPER/JA, CA-JASPER/RT, CA-JASPER/CICS	—	\$18,000-20,000	DOS/VS(E)

Continued

COMPUTER ASSOCIATES INTERNATIONAL, INC.

EXHIBIT (Cont.)

SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	NUMBER INSTALLED	PRICE RANGE	OPERATING SYSTEM(S)
CA-JASPER RESOURCE MANAGEMENT SYSTEM	Includes CA-JASPER/JA, CA-JASPER/CICS	—	\$10,500-12,500	OS/MVS
CA-DRIVER	Job Management and Control System	100	\$ 6,500- 8,500	OS/MVS, DOS/VS(E)
CA-EARL	Report Program Language	500	\$12,000-16,750	VM/CMS, DOS/VS(E),
CA-QUICKTROL	Project Control and Billing System	New	\$26,000-28,000	OS/MVS
SOLVE	Interactive Testing and Debugging System at Source Level	New	\$ 5,500- 7,500	DOS/VS(E)
RAPS	Provides CICS/VS(E) Remote Users with Access to DOS/VS(E) Power Query Files	120	\$ 4,250- 6,250	DOS/VS(E)
V-CKD	Supports Direct Access Method in DP Installations Using 3310 or 3370 FBA Devices	New	\$ 4,250- 6,250	DOS/VS(G)
DATA-GO	Test Data Generation Facility	17	\$ 3,000- 4,000	DOS/VS(E)
IMPROVE/MON IMPROVE/CICS	Collects, Reports Statistics of Resource Usage and Operating Characteristics	New	\$ 3,000- 8,000	DOS/VS(E)
CA-VIEW	Display and Management System for CMS Query Files	New	\$ 3,000- 4,500	VM/CMS
CA-VTERM	Provides Up to Nine Virtual Terminals Active from One Physical Terminal	New	\$ 3,000- 4,500	VM/CMS
CA-SYMBUG/C	Symbolic Debugging Aid for COBOL	37	\$12,500-14,500	VM/CMS
CA-CDOS	Provides Interactive DOS/VSE Program Development Under CMS	New	\$20,000-22,000	VM/CMS
				..

COMPUTER ASSOCIATES INTERNATIONAL, INC.

- CA's products are normally installed on a 30-day trial basis and are subject to customer acceptance during this period.

INDUSTRY MARKETS

- Revenue is distributed by industry in proportion to the installed population of IBM System 360/370/303X/43XX CPUs.
- CA's customers include manufacturers, banks, insurance companies, retailers, educational institutions, and government agencies.

GEOGRAPHIC MARKETS

-	United States	60%
-	Europe	30%
-	Other International	10%

- U.S. regional offices are located in Atlanta, Chicago, Dallas, Jericho, and San Francisco. There is a marketing office in Los Angeles.
- Overseas subsidiaries operate as independent business units. Such units are located in Australia, Austria, Belgium, Canada, England, France, Germany, Holland, Italy, Spain, Switzerland, Brazil, and Japan.
- CA's products are also marketed through independent distributors in Scandinavian countries, South Africa, South America, Central America, Singapore, the Phillipines, and Israel.

COMPUTER HARDWARE

- | IBM 4341 (New York).
- | IBM 370/148 (New York).
- | Magnuson M80 (Maidenhead, England).
- | IBM 4331 (Germany).
- | IBM 4331 (France).

EVALUATION OF MANAGEMENT

- The company is well managed, has moderate market coverage, and is sales and marketing oriented. It is conservative in its accounting methods (internally developed software is expensed as it is developed). Also, the long-term maintenance obligations are recognized as a potential future cost. Provisions for this amounted to over \$375,000 as of September 30, 1982.

SUMMARY

- The acquisition of CAPEX significantly strengthens CA in domestic markets. CAPEX is somewhat conservative but has quality products that apply to international distribution as well. Further strength of the dollar could impact performance due to high international content. Overall, an effective organization well-positioned for growth.

COMPANY HIGHLIGHT

CAPEX CORPORATION
4125 North 14th Street
Phoenix, AZ 85014
(602) 264-7241

A. LeRoy Ellison, President
A Subsidiary of Computer Associates
Total Employees: 225
Total Revenue, Fiscal Year End
12/31/82: \$17,000,000*
Market Value: See Computer Associates

THE COMPANY

- Capex Corporation markets systems software and applications software for financial planning. Capex began marketing systems products in 1969. The company was acquired in September 1982 by Computer Associates International, Jericho (NY) for \$22.5 million.

CAPEX CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands)

ITEM	FISCAL YEAR				
	1982	1981	1980	1979	1978
Revenue	\$17,000	\$15,000	\$12,000	\$8,100	\$5,000

- Capex management claims the company has had an average annual growth rate of 50% since 1974 and has been profitable since 1971.

SOURCE OF REVENUE

- Software Products 95%
 - Systems Software 80%
 - Applications Software 15%
- Turnkey Systems 5%
100%

PRODUCTS AND SERVICES

- Capex's software products are shown in the exhibit.
 - OPTIMIZER III, introduced in 1970, has generated over \$12 million. In 1980 it contributed approximately \$4.8 million to total revenue.
- Capex's turnkey system is also shown in the exhibit.

*INPUT estimate

EXHIBIT

PRODUCTS
CAPEX CORPORATION

PRODUCT	DESCRIPTION	PRICE	NUMBER INSTALLED	CPU REQUIREMENTS (OPERATING SYSTEM)
SOFTWARE PRODUCTS				
- PROGRAMMING AND SYSTEM PRODUCTIVITY	Productivity and optimization product for COBOL programmers.	\$9,750-\$28,500	1,200	IBM 360+ (OS, VS, DOS/VIS)
- SYSTEM AND MANAGEMENT PERFORMANCE	Management information system which furnishes data necessary to monitor and control service, performance and resource utilization of IMS/VIS operating systems.	\$10,900	110	IBM 360+ (IMS/VIS)
. MANAGE: IMS	Information system that assists DP management in controlling and managing system resources.	\$8,450	160	IBM 360+ (OS, VS and MVS)
. PLAN IV	System information for system managers in the MVS environment.	\$6,000	PL4: MVS-200	IBM 360+ (MVS)
. 4MVS	System measurement of MVS.	\$9,650	12	IBM 360+ (MVS)
. 4TUNE	Tape library management system.	\$15,100	350	IBM 360+(OS,OS/VIS in batch and interactive)
- OPERATIONS MANAGEMENT	Designed to automate the process of production job documentation, setup and submission. Automates production workload.	\$15,000 (w/opt \$17,000) \$8,000-\$32,000	50 30	IBM 360+ (OS, VS, SVS, MVS)
. TLMS II				IBM 360+
. JOBDOC				IBM 360+ (OS, VS, SVS, MVS)
. THE SCHEDULER				IBM 360+
- FINANCIAL PLANNING AND MODELING	Financial planning capabilities for use in modeling, forecasting and budgeting.	\$26,000 (plus over 500 Time Sharing Users)	150	IBM 360+
. AUTOTAB II	Financial modeling for banks.	\$27,000		IBM 360+
. (Also available from McAUTO as AUTOPLAN and NCSS as INFO TAB).				
. FRS				
. TURNKEY SYSTEM				
. AUTOTAB 300				
	Financial planning and modeling		20	Hewlett-Packard 300
				\$70,000-\$110,000 depending on size of hardware

CAPEX CORPORATION

NEW PRODUCTS

- Capex intends to expand by development and acquisition of software products.
 - In January 1981 Capex acquired The Scheduler, a software product that automates production workload, from Chronetics Inc. of Anaheim (CA).
 - DASD Manager is currently planned to cost about \$10,000 and will operate on IBM 360+ equipment. It has been developed internally by Capex and will be released in the fourth quarter of 1981.
 - CICS Monitor is also a new internally developed product planned for release in the fourth quarter of 1981. It will run on IBM 360+ equipment.

INDUSTRY MARKETS

- Capex's revenue is distributed proportionately across industry segments without any particular concentration in one industry.

GEOGRAPHIC MARKETS

- United States - 84%.
 - The company has offices in Phoenix, Atlanta, and Dedham (MA); Hinsdale (IL); Dallas and Houston (TX); Downey (CA); Clifton, (NJ); King of Prussia (PA); and Columbia (MD).
- International - 16%.
 - Capex currently markets only its systems products in The Netherlands, England, West Germany, and France.

COMPUTER HARDWARE AND SOFTWARE

- Capex has two Magnuson CPUs installed at its headquarters in Phoenix.

SUMMARY

- Capex was strengthened by its acquisition by Computer Associates International, a strong marketing organization with good international coverage. For a summary of the company's strengths, see Computer Associates International.

COMPANY HIGHLIGHT

COMPUTER LANGUAGE RESEARCH
(FAST-TAX)
2395 Midway Road
Carrollton, TX 75006
(214) 934-7000

Francis W. Winn, President
Public Company, OTC
Total Employees: 1,149
Total Revenue, Fiscal Year End
6/30/82: \$69,000,000
Market Value: \$345 million

THE COMPANY

- Founded in 1964, Computer Language Research provides computerized tax return processing services to individuals, corporate entities, partnerships, fiduciaries, and expatriates. Principal clients are major CPA firms, law firms, and Fortune 1000 corporations.
- Revenue grew from 1978 to 1982 at an AAGR of 38%. Net income grew at an AAGR of 45% over the same period. Interim 1983 results have not been released.

FAST-TAX FIVE-YEAR FINANCIAL SUMMARY (\$ millions)

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Revenue		\$ 69.0	\$ 52.7	\$ 36.7	\$ 26.2	\$ 18.9
• Percent increase from previous year		31%	44%	40%	39%	42%
Net income		\$ 7.6	\$ 5.8	\$ 4.7	\$ 2.4	\$ 1.7
• Percent increase from previous year		31%	23%	96%	41%	N/A

HISTORICAL GROWTH BY SEGMENT

Segment	1978 (\$ millions)	1982 (\$ millions)	AAGR (percent)
Processing services	\$18.9	\$69.0	38%

COMPUTER LANGUAGE RESEARCH

PROJECTED GROWTH BY SEGMENT

<u>Segment</u>	AAGR (percent)	<u>Fiscal Year (\$ millions)</u>			
		<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Processing services	25%	\$86	\$108	135	168

1986 MARKET SHARE

- RCS processing market - 1.2%.

SUMMARY

- The company is weakened by the Winn family control of top management jobs (chairman, president, and four directors). Otherwise, the company has shown excellent growth in a good market. Competition will increase over the next five years, however, and is already strong from companies such as CCH Computax.

COMPANY HIGHLIGHT

COMPUTER POWER, INC.
661 Riverside Avenue
Jacksonville, FL 32204
(904) 358-1424

David M. Hicks, President
Subsidiary of Chase Manhattan
Bank
Total Employees: 158
Total Revenue, Fiscal Year End
12/31/82: \$25,600,000*
Noncaptive Revenues: \$25,000,000

THE COMPANY

- Computer Power, Inc. (CPI), incorporated in 1969, provides mortgage services and residential construction loan processing services to commercial banks, mortgage bankers, savings and loan associations, and mutual savings banks. A minor amount of revenue comes from the sale of software products covering the same market.
- CPI was acquired by Chase Manhattan Bank in October 1979 for \$20 million.
- Revenue in 1982 was 18% higher than in 1981. CPI is targeting a 22% increase in revenue in 1983.
- In the next 12 months CPI may develop software to provide a personal computer-based loan processing service to smaller clients.

CPI
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands)

ITEM	FISCAL YEAR	1982*	1981	1980	1979	1978
Total revenue		\$ 25,600	\$ 21,700	\$ 16,000	\$ 10,800	\$ 8,000
. Percent increase from previous year		18%	36%	48%	35%	33%
Income before taxes		\$ 4,900	\$ 4,300	\$ 3,100	\$ 1,900	\$ 1,600
. Percent increase from previous year		14%	39%	63%	19%	129%

- Competitors of CPI are American Automated, Data Communications Corporation, and Data Link.

*INPUT estimate

KEY PRODUCTS AND SERVICES

- Processing services account for 70% of CPI's revenues, software products 14%, and professional services 15%. Captive revenues were about 2% in 1982.
- Four major software products are offered on CPI's processing service. All were developed by the company and are also sold separately as software products.
 - Mortgage Servicing consists of as many as 2,000 modules and provides the following features:
 - Loan administrative management, including portfolio analysis.
 - Investor accounting: cashiering, investor reporting, new loan setup and loan transfers.
 - Customer services: escrow analysis, hazard insurance, property taxes, MIP/PMI, HUD #235s, payoffs and assumptions, and A&H/life insurance.
 - Collections and foreclosures.
 - Adjustable rate mortgage.
 - Construction Loan Management provides:
 - Interest rates with multiple prime rate.
 - Complete accounting: cash receipts, cash disbursements, adjustments, individual loan ledgers, borrowers' statements, and trial balances.
 - Projections of cash flow, portfolio earnings, and loan yields.
 - Management information and status reports.
 - Residential Loan Inventory Control provides:
 - Loan origination volume and profitability.
 - Inventory control: tracks pipeline loans from application date to closing.
 - Marketing control: maintains individual loan ledgers.
 - Warehousing control.
 - Check/draft control.

COMPUTER POWER, INC.

- General Ledger provides:
 - . Monthly and quarterly detail general ledgers.
 - . Monthly income statements.
 - . Automatic balancing procedures.
 - . Validation of chart of accounts.
 - . Transaction balancing and editing.
- Processing charges for the four products are:
 - . Mortgage Servicing, \$0.30 per loan for the first 10,000 processed, then discounts are applied as loan volume increases.
 - . Construction Loans, \$0.25 per loan per month, plus a base charge of \$300 per month.
 - . Residential Loans, \$0.25 to \$1.50 per loan, depending on the number and frequency of loans processed, plus a base price of \$400 per month.
 - . General Ledger, charges based on the number of transactions processed each month. Lowest monthly charge is \$500 for less than 10,000 transactions; this price increases in increments to \$1,800 for 30,000 transactions. Additional charges are also applied for separate edits performed.
- CPI has 125 processing clients. One hundred of these also use Raytheon PTS/1200 or Honeywell/DPS 6 minicomputers connected to CPI's network.
 - The Raytheon minicomputer is used for batch data entry, controlling the flow of batch work, and on-line data inquiry.
 - The Honeywell system has all the capabilities of the Raytheon system, and is available with Residential Loan Production software as well.
 - . Residential Loan Production tracks a loan from application to closing and prepares all closing documents.
 - . Data entered is automatically transferred for use with network software products.
 - . The license fee is \$50,000.
- Software product sales contributed \$1.2 million in revenue in 1981. All software products are operational on IBM or plug-compatible mainframes using any IBM-compatible operating system.

COMPUTER POWER, INC.

- Mortgage Loan operates in batch mode with an on-line inquiry capability. Purchase price ranges from \$150,000 to \$235,000 depending on options. Twenty-eight mortgage loan packages have been sold.
- Construction Loan operates in batch mode only, and sells for \$25,000. Ten packages have been sold.
- Residential Loan operates in batch mode with an on-line inquiry capability. Purchase price is \$25,000. Sixteen packages have been sold.
- General Ledger operates in batch or interactive modes and is sold for \$25,000. There are eight installations.
- In the professional services area, CPI offers consulting and portfolio acquisition assistance.

INDUSTRY MARKETS

- One hundred percent of CPI's revenues are derived from the banking and finance industry. Clients are primarily mortgage companies, commercial banks, and savings and loan institutions.

GEOGRAPHIC MARKETS

- One hundred percent of CPI's revenues are derived from the U.S. Although clients are dispersed throughout the country, a higher percentage are located in the Florida, Georgia, and western and southwestern states.

COMPUTER HARDWARE AND SOFTWARE

- CPI maintains one data center at its headquarters in Jacksonville. Clients access the center via leased telephone lines.
- One Amdahl 470 V8 with an MVS operating system is used to provide network services.

SUMMARY

- This company would make an excellent acquisition for CNB. It remains to be seen, however, whether the management of CPI would favorably view the change in parent. The current management is strong and mature, and the company's products are well established. Technology is not a factor.

COMPANY HIGHLIGHT

COMPUTER SCIENCES CORPORATION
650 North Sepulveda Blvd.
El Segundo, CA 90245
(213) 615-0311

William R. Hoover, President
Public Company, NYSE
Total Employees: 14,700
Total Revenue, Fiscal Year End
4/3/83: \$694,914,000
Market Value: \$243 million

THE COMPANY

- Founded in 1959 to provide consulting services and to design/implement operating systems, compilers, and other systems software, CSC has expanded to include systems development, engineering, facilities management, turnkey computer-communications systems, communications engineering, batch processing, and network services.
- Revenue growth has been at an AAGR of 20% over the 1976-1980 period and 32.6% from 1980 to 1981. On January 29, 1982, CSC acquired Associated Credit Services for \$19.9 million. In a full year ACS will add \$27.8 million of revenue to CDC's Data Services group.

COMPUTER SCIENCES CORPORATION FIVE-YEAR FINANCIAL SUMMARY (\$ millions)

ITEM	FISCAL YEAR	1983	1982	1981	1980	1979
Revenue		\$ 695	\$ 630	\$ 601	\$ 453	\$ 342
. Percent increase from previous year		10%	5%	33%	32%	24%
Net income		\$ 17.9	\$ 17.8	\$ 24.7	\$ 22.7	\$ 14.2
. Percent increase (decrease) from previous year		0%	(28%)	9%	60%	1%

- The substantial drop in 1982 income and flat results in 1983 were due to high costs associated with modernizing the INFONET network and a decline in Medicaid transaction volume. CSC has been largely unsuccessful in the commercial services markets.

COMPUTER SCIENCES CORPORATION

SERVICE TYPE AND DELIVERY MODE

	<u>Service Type</u>	<u>Percent</u>	<u>Revenue Value 1982 (\$ millions)</u>
●	Data Services	27%	\$152
-	INFONET		\$90
-	Business Services		46
-	Associated Credit*		7
-	Paid Prescriptions		9
●	Contract Services	73%	\$478
-	Facilities Management		\$169
-	Systems Development		\$ 309
	Total	100%	\$1,108

* Three months' revenue only

INDUSTRY SECTORS SERVED

	<u>Contract Services</u>	<u>Data Services</u>
●	Federal Government	68% 23%
●	Commercial	3% 59%
●	State and Local Government	11% less than 1%
●	International	18% 18%

INTERNATIONAL MARKETS SERVED

- International operations are principally divided between systems design and consulting services (through CSC's Computer Sciences Europe subsidiary) and the remote computing services of INFONET (European INFONET services also handled by Computer Sciences Europe). INFONET services have been expanded, through licenses with local companies, to Japan, Singapore, and Taiwan. In fiscal 1982 international operations provided 18% of the revenue, up from 15% in 1981 from operations in 57 countries.

COMPUTER SCIENCES CORPORATION

HISTORICAL GROWTH BY SEGMENT

<u>Segment</u>	1977 (\$ millions)	1982 (\$ millions)	AAGR (percent)
INFONET	\$57.7	\$90	9%
Other processing services	1.3	62	116
Facilities management	44.0	169	31%
Professional services	<u>132.0</u>	<u>309</u>	<u>19</u>
Total	\$235.0	\$630	22%

PROJECTED GROWTH BY SEGMENT

<u>Segment</u>	AAGR (percent)	<u>Fiscal Year (\$ millions)</u>				
		<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
INFONET	3%	\$93	\$95	98	101	104
Other processing services	12	74	85	98	113	129
Facilities management	7	182	197	213	230	248
Professional services	<u>10%</u>	<u>346</u>	<u>388</u>	<u>434</u>	<u>486</u>	<u>544</u>
Total company size		\$695	\$765	\$843	\$930	\$1,025

1986 MARKET SHARE

- Processing services 2.6%, facilities management 14%, professional services 4.3%.

POTENTIAL IMPACT OF ECONOMY

- A large part (57%) of CSC's revenue comes from the federal government in defense and applied technology activities that are largely unaffected by economy downturns. The same cannot be said of INFONET and other Data Services activities. INFONET revenue declined in 1982, and if Associated Credit revenues had not been added, the Data Services division revenues would have declined too. As it was, they stayed flat at \$152 million.
- In 1983 CSC's growth will pick up both in processing services and in contract services.

POTENTIAL IMPACT OF COMPETITION

- The contract services group has formidable opposition in the marketplace in the shape of TRW, Hughes Aircraft, IBM Federal, and Raytheon. In their medicaid and government facilities management contracts, the principal competition is EDS, who won the \$1 billion viable contract.
- Similarly, the Data Services segment competes with ADP, Service Bureau, GEISCO, and Tymshare. Competitive moves can therefore impact CSC strongly in all their major markets.

POTENTIAL IMPACT OF TECHNOLOGY

- CSC is at the forefront of technology developments and is well able to predict the likely impact of each new technology. Additionally, CSC is a "people resource" company, and the demand for specialist skills has already outstripped available resources. No impact is foreseen.

SUMMARY

- CSC needs to maintain its R&D investment in INFONET to support continued growth of that market and has a difficult task in its attempt to develop a turnkey system division.
- CSC's strength is in its government-based contract services. It has been a poor performer in developing commercial products and services (e.g., Computer Sciences Institute, Computicket, banking software packages, and now problems with Itel acquisitions).
- It is possible that CSC would consider divesting itself of the Data Services division to concentrate on what the president considers the mainstream business, Contract Services. The unwanted parts of the division (medical claims processing, paid subscriptions, etc.) could be sold off.

COMPANY HIGHLIGHT

COMSHARE, INC.
3001 South State Street
Ann Arbor, MI 48106
(313) 994-4800

Richard L. Crandall, President
Public Corporation, OTC
Total Employees: 1,215
Total Revenue, Fiscal Year End
6/30/82: \$78,453,000
Market Value: \$45 million

THE COMPANY

- Comshare was founded in 1966 by six individuals previously associated with the University of Michigan, to offer commercial timesharing. The company has expanded its services to international markets and, since the early 1970s, has specialized in providing remote computing services within five application areas: personnel administration, financial planning and analysis, certified public accounting, telephone company traffic administration, and trust administration.
- Comshare's revenue in fiscal 1982 was down 2 % over fiscal 1981. Income before taxes and net income declined resulting in pretax margins of 2% in 1982 versus 9.4% in 1981. Interim results for fiscal 1983 months were \$57,400,200 revenues and \$1,062,300 down 2% over the equivalent fiscal 1982 period.

COMSHARE, INC.

COMSHARE, INC.
FIVE-YEAR FINANCIAL SUMMARY (RESTATED)
(\$ thousands, except per share data)

ITEM	FISCAL YEAR	6/82	6/81	6/80	6/79	6/78
Revenues from continuing operations		\$ 78,453	\$ 79,837	\$ 68,579	\$ 46,049	\$ 23,404
• Percent increase (decrease) from previous year		(2%)	16%	49%	97%	44%
Income from continuing operations before taxes and extraordinary item		\$ 1,591	\$ 7,535	\$ 9,146	\$ 7,711	\$ 3,949
• Percent increase (decrease) from previous year		(79%)	(18%)	19%	96%	9%
Income from continuing operations		\$ 829	\$ 4,374	\$ 5,346	\$ 4,383	\$ 2,689
• Percent increase (decrease) from previous year		(81%)	(18%)	22%	63%	9%
Net income		\$ 56	\$ 1,487	\$ 4,055	\$ 4,521	\$ 3,397
• Percent increase (decrease) from previous year		(96%)	(63%)	(10%)	33%	7%
Income per share:						
- Continuing operations		\$.18	\$ 1.03	\$ 1.41	\$ 1.31	\$ 1.06
• Percent increase (decrease) from previous year		(83%)	(27%)	8%	31%	6%
- Net income		\$.01	\$ 0.35	\$ 1.07	\$ 1/36	\$ 1.24
• Percent increase (decrease) from previous year		(97%)	(67%)	(21%)	7%	4%

- Comshare's compound growth for the five years is 36%.
- All financial information was retroactively restated where appropriate for the disposal of the individual income tax processing services operations and for an accounting change for vacation pay benefits adopted in fiscal 1981.

COMSHARE, INC.

- Comshare's income tax processing service operations were discontinued in February 1981 after incurring net operating losses of \$352,300. During the fourth quarter of fiscal 1981, the company sold the discontinued operations for \$1.7 million in cash and future contingency payments. The loss on disposal, net of tax benefits, was \$2,089,100.
- The results of 1981 include the first full year of operations of Comshare's January 1980 acquisition, Computer Research Company (CRC). Fiscal year 1980 results include the first full year of operation of DIBV, the Comshare International, BV fiscal 1979 acquisition, as well as CRC for the latter half of the year.
- Reduced profits from continuing operations in fiscal year 1982 were due largely to lower than expected revenues and the decision to continue important development programs in research and marketing. Another contributing factor was the general economic climate in Comshare's two market areas, the U.S. and the U.K. The currency translation to U.S. dollars was an unfavorable \$6.5 million.
 - Research and development costs were \$6.1, \$5.9, \$4.5 and \$3.3 million for the years ended June 30, 1982, 1981, 1980 and 1979, respectively.
- Third quarter results from fiscal year 1983 ended March 31, 1983, showed a minimal increase in revenues from \$21,505,300 in 1981 to \$21,741,800 in 1982. Income from continuing operations for the quarter increased from a deficit in the corresponding quarter to \$90,200 profit in 1983.
- In November 1981 Comshare announced the acquisition of the microcomputer software business of Advanced Management Strategies, Inc. of Atlanta, GA. The firm's products are sold under the trade name Target, and the new unit will operate as a Comshare subsidiary, Target Software, Inc.
- Revenues and contribution to operating income from Comshare's European operations continued to be substantial. In fiscal 1982 European operations contributed approximately 34% of the company's revenue and 33% of its operating income, as illustrated below (\$ millions):

	Fiscal Year 1982		Fiscal Year 1981	
	<u>U.S.</u>	<u>Europe</u>	<u>U.S.</u>	<u>Europe</u>
Revenue	\$ 50.6	\$ 27.8	\$ 47.3	\$ 32.6
. Percent of total	66%	34%	59%	41%
Operating income	\$ 2.4	\$ 1.2	\$ 7.8	\$ 2.4
. Percent of total	67%	33%	76%	24%

- Comshare is divided into five separate profit centers, each with its own sales and marketing staff:

COMSHARE, INC.

- Communication Product Services develops applications that address the needs of telephone companies, particularly in the area of network administration. Included in this organization are the 4.1.1 products.
- Compass Services provides specialty software and services for certified public accountants.
- Human Resource Management provides application services for personnel administrators to control and report data associated with all aspects of personnel record keeping.
- Financial Planning and Control markets financial modeling, analysis, forecasting, and compliance reporting applications to financial departments in medium to large firms.
- Trust Services provides employee benefit plans record keeping, personal trust administration, and related payment services to bank trust departments.
- Two other organizational units were established in 1980.
 - Hardware Division markets several proprietary peripheral devices for Xerox Sigma Computers, which were originally developed for internal use.
 - Computer Graphics is responsible for developing new applications in computer graphics, specifically a new graphics product, Execuchart.
- Additionally, Comshare has three wholly owned subsidiaries: COMSHARE International, BV (CIBV), Computer Research Company, and the recently acquired Target Software, Inc.
- Competition for Comshare's specialty services comes from:
 - Telephone industry: McAUTO and Tymshare.
 - Trust services: SEI and Bradford National.
 - Personnel administration: Information Sciences and Management Science America.

KEY PRODUCTS AND SERVICES

- Comshare's new direction is to emphasize software, and it has made several moves in that direction.
- Approximately 96% of Comshare's revenue is derived from processing services and 4% from turnkey systems sales.

COMSHARE, INC.

- The major thrust of Comshare's R&D expenditures went to decision support systems. They launched System W in 1982. This is an important strategic product for Comshare.
- The majority of Comshare's processing revenues come from specialty applications available on Comshare's network or from several batch data centers. Specialty applications offered in the U.S. include:
 - Parsec, a group of products for financial modeling, inflation accounting, consolidated budgeting, and performance reporting.
 - 4.I.I, an integrated system for telephone companies that controls administrative activities such as telephone number assignment and voice traffic load balancing.
 - Profiles, an information processing system for corporate personnel managers. Profiles provides applications for the control and reporting of personnel records, salary administration, EEO, profit sharing, and employee benefits.
 - Compass, a package of programs for assisting certified public accountants with auditing and practice development services as well as internal time, billing, and general ledger services.
 - Trust services, including applications to support trust administration, pension check preparation, and trust department operations.
- Revenues from Comshare's proprietary data base management system, Questor, and a related product, TACTICS, increased within the last year. These products are estimated to contribute about 14% of Comshare's total revenue, or \$18 million.
- A profile of the key applications offered on Comshare's U.S. network is presented in the exhibit. Several new applications were introduced in fiscal year 1982.
 - System W, a mainframe and micro-based decision support system.
 - Target, a financial modeling system for personal computers.
- Turnkey systems, available in Comshare's specialty areas, account for about 4% of fiscal year 1982.
 - Data General Nova minicomputers Models 3 and 4 and Eclipse 130s run the RetriVue telephone directory assistance system for 4.I.I. RetriVue gives a telephone operator immediate access to all telephone listings.
 - . Applications available include directory assistance, intercept, and dial assistance charging.
 - . RetriVue costs between \$50,000 and \$350,000.

EXHIBIT
COMSHARE
KEY APPLICATIONS ON THE U.S. NETWORK

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
<ul style="list-style-type: none"> ● OPERATING ENVIRONMENT <ul style="list-style-type: none"> – XEROX 940, COMMANDER II – XEROX SIGMA 9, COMMANDER II ● DISTRIBUTED PROCESSING <ul style="list-style-type: none"> – DIGITRUST – RETRIVUE ● PROGRAMMING LANGUAGES SUPPORTED <ul style="list-style-type: none"> – BASIC – COBOL – FORTRAN ● DATA MANAGEMENT SOFTWARE <ul style="list-style-type: none"> – QUESTOR – REQUESTOR – COMPOSIT 77 ● DATA BASES AVAILABLE <ul style="list-style-type: none"> – INTERNATIONAL MONETARY FUN – VALUE LINE – CITIBASE – VS COM – PROFILES WORKFORCE CENSUS – SITE II ● FINANCIAL TOOLS <ul style="list-style-type: none"> – FCS (FINANCIAL MODELING) – TACTICS (TIME SERIES ANALYSIS) – DATAFORM III (FINANCIAL MODELING) – VS COM - 33 (FORECASTING MODULE) ● FINANCIAL SERVICES (PARSEC) <ul style="list-style-type: none"> – AUDITING AND ACCOUNTING FUNCTIONS – FINANCIAL ANALYSIS – INVESTMENTS – STATISTICS – FINANCIAL CONSOLIDATION AND REPORTING – COMPLIANCE REPORTING – BUDGETING – ORION – NEW PRODUCT INTRODUCTION 	<ul style="list-style-type: none"> ● HUMAN RESOURCE MANAGEMENT (PROFILES) <ul style="list-style-type: none"> – EEO REPORTING – LABOR RELATIONS – EMPLOYEE BENEFITS – COMPENSATION – SALARY ADMINISTRATION – RETIREMENT PLANNING – SKILLS INVENTORY – WAGE/PRICE PROGRAM COMPLIANCE – PRISM (HUMAN RESOURCE PLANNING) ● CERTIFIED PUBLIC ACCOUNTANTS (COMPASS) <ul style="list-style-type: none"> – ACCOUNTING – AUDITING – INVESTMENTS – PENSION PLAN ANALYSIS – TAX PLANNING AND PREPARATION – TIME AND BILLING – PROJECT ACCOUNTING – GENERAL LEDGER – AICPA/COMSHARE LIBRARY – VS COM 33 – REAL ESTATE ANALYSIS – ACCOUNTING PROJECTION – CASH FLOW – AUDIMATE ● TELEPHONE INDUSTRY (4.1.1) <ul style="list-style-type: none"> – DIAL ASSIGNMENT (MIDAS) – CUSTOMER USAGE REPORTS – DYNAMIC LOAD BALANCE – EQUIPMENT BALANCE INFORMATION (EBIS) ● TRUST ADMINISTRATION SERVICES* <ul style="list-style-type: none"> – PERSONAL TRUST (DIGITRUST, TRUSTOR II) – CORPORATE TRUST (AUTOPAY) – EMPLOYEE BENEFIT TRUST (TRILOG, TRASOP I, PENSION PAY) – FIDUCIARY TAX RETURNS (DIGITAX)

* TRUST SERVICES ARE PROVIDED FROM A BATCH DATA CENTER IN PHILADELPHIA.

COMSHARE, INC.

- The trust system, called Digitrust, is designed for use by medium-sized trust departments. Comshare has installed 35 systems since they were offered in 1976. Prices range from \$40,000 to \$100,000 for the software license and hardware. Digitrust operates on DEC PDP/IIs. Applications available on the minicomputer include:
 - Personal Trust Accounting.
 - Employee Benefit Participation Accounting.
 - Bond/Coupon Paying and Reconciliation.
- Digithrift is based on the DEC PDP 11/34 and costs \$65,000. The product was introduced in 1981.
 - Applications for Digithrift enable trust professionals to simplify record keeping, accounting, and administration for employee benefit plans.
- Digipay, while available as a turnkey system on DEC PDP IIs, is primarily sold as a software package. It automates the repetitive manual processing that characterizes bond and coupon payment and reconciliation. It features interactive data entry, systems for balancing and controlling accounts, and security measures.
 - Level I, costing \$35,000, is the basic automated bond payment system.
 - Level II costs \$50,000 and adds record keeping for registered bonds and historical cash history maintenance features.
 - Hardware for either level is available for an additional \$33,000.
- Digifile puts the wills of trust department clients on a computerized data base. Once they are automated, updating wills to reflect changes in trust assets is easier and more timely.
- Available for DEC PDP II equipment, the Digifile software costs \$12,000 installed.
- Profiles 3000 is a new personnel data base software product that operates on a Hewlett-Packard 3000 and allows for record keeping and analysis of human resources. The system has on-line access and inquiry capabilities. Profiles 3000 costs \$20,000.
- Comshare released its first software application in the microcomputer area in fiscal 1981. A series of software products for the bank trust industry was designed by the company's Trust Services Division.
 - Three products under the name Microshare are being marketed for employee benefit record keeping and wills inventory and retention.

COMSHARE, INC.

- Specific applications include record keeping for profit sharing or employee stock ownership plans and a lump sum check payment system for payments such as dividends or interest.
- Microshare products run on Apple II microcomputers. The systems range in price between \$3,700 (software) and \$9,600 (software and hardware).
- In February 1982 Comshare introduced a personal trust accounting system based on the Apple III microcomputer. Called Microtrust, the system is suitable for bank trust departments that handle 40-400 personal trust accounts.
 - The system is designed to handle time-consuming trust department functions, which include administrative procedures like daily reporting of account activity and investment-related tasks such as account statement preparations and customer reviews. The system speeds trust department operations such as the posting and generation of dividends and interest.
 - Two versions are currently available. The five megabyte hard disk system costs \$13,000, while the three megabyte floppy disk version costs \$10,000.
- Comshare has completed a color computer graphics family of products, Execuchart, that provides color computer graphics for use by executives and their staff. Execuchart was released in fiscal 1982 after three years of development.
- Computer Research Company (CRC) provides batch and remote batch processing from a data center in Chicago. It does not offer any unique specialty applications and basically sells computer time at low rates on two Amdahl 470 V/8s.
- Much of Comshare's European business stems from government agencies in the United Kingdom. The company provides financial applications for various bureaus and departments. Comshare's European subsidiary, Comshare International, BV (CIBV), offers the following specialty applications in addition to Parsec:
 - Monita, a foreign exchange banking application that includes Femis, a foreign exchange accounting and management information system.
 - Counsela, providing general problem-solving applications to government agencies.
 - Visor, a stock and production control system for discrete manufacturing clients.
 - A new financial modeling product, Wizard, was developed over the past three years in the United Kingdom and reached the market test stage

COMSHARE, INC.

last year. It will be released in Europe early in fiscal 1982. Comshare intends to release it in the U.S. before the end of the year.

- The newest Comshare subsidiary, Target Software Inc., offers three products for business planning for microcomputers called the Target Business Planning System.
 - Target Planner is a tool for beginning business planners. It provides for cash flow analysis/projections, sales projections, budget planning, job costing, investment portfolio analysis, payback analysis, acquisition/merger analysis, tax calculations/projections, loan analysis, break-even analysis, inventory control, and product line analysis.
 - . It operates on most microcomputers including those from IBM, Xerox, NEC, Apple, DEC, Zenith, Vector, and Tandy. The package costs \$195.
 - Target Planner Calc allows for financial analysis and projections for personal financial planning and beginning financial planners, like Target Planner, except it uses gridsheet entry methods. The package also sells for \$195.
 - Target Master Planner costs \$495 and is intended for financial professionals who require a large, complex modeling capability. It enables sophisticated types of financial analyses including profit center profiles, subsidiary-company analysis/projections, sales trend analysis, investment portfolio analysis, and project investment analysis.

INDUSTRY MARKETS

- Comshare derives the majority of its revenues from CPA firms, the telephone industry, financial institutions, discrete manufacturing, insurance and government sectors. Comshare's largest clients are various subsidiaries of AT&T, which accounted for 4% of total revenues in 1981 (\$3.3 million) and 7% (\$4.7 million) in 1980.

GEOGRAPHIC MARKETS

- Approximately 59% of Comshare's 1982 revenues were derived from U.S. clients and 41% from European operations.

COMPUTER HARDWARE

- Comshare operates a private, international telecommunications network with connections to over 90 cities throughout the U.S., Europe, and Canada. The network consists of over 25,000 miles of leased telephone circuits controlled by a proprietary, minicomputer-based, hardware/software system called the Telegrid Communications Network. Telegrid employs Comshare-designed technology to detect and correct errors in transmission.

COMSHARE, INC.

- In 1981 Comshare augmented its private telecommunications network by connecting to the GTE Telenet network. Services are now available to more than 150 cities in 22 countries.
- COMMANDER II, Comshare's proprietary operating system, operates in interactive and remote batch modes. COMMANDER II-based services are offered from data centers in Ann Arbor and London. Comshare has licensing agreements for COMMANDER II in Tokyo (Japan Information Service, Ltd.) and Toronto (Comshare, Ltd.).
- Equipment installed in the two remote computing centers consists of:
 - Ann Arbor, 19 Xerox Sigma 9s.
 - London, 18 Xerox Sigma 9s.
- Comshare has upgraded a number of the Sigma 9 systems with new central processors and advanced MOS memory manufactured by Honeywell.
- Computer Research Company has two Amdahl 470V/8s installed in its data center in Chicago.
- Comshare's Trust Services Division operates a data center in Philadelphia and has an IBM 360/65 installed. All trust applications operate in a batch mode.

SUMMARY

- Comshare is vulnerable to economic downturns because of the predominance of processing. They are well-positioned competitively because of their early concentration on vertical markets.
- Comshare's technology exposure is reduced because the main influence on their business is software, which has a long lead time. Their management team is mature but not very strong.

COMPANY HIGHLIGHT

EXECUCOM SYSTEMS CORPORATION
3401 Far West Boulevard
Austin, TX 78731
(512) 346-4980

G.R. Wagner, Ph.D., Chairman
and CEO
Private Corporation
Total Employees: 196
Total Revenue, Fiscal Year End
12/31/82: \$20,464,000

THE COMPANY

- EXECUCOM Systems Corporation, founded in 1974, provides financial planning and decision support software products and related professional services to clients across industry sectors. The company maintains offices throughout the U.S., Canada, and in Sydney, Australia, and Copenhagen, Denmark. Twenty-two distributors also sell the product line.
- EXECUCOM revenue grew from an estimated \$6 million in 1980 to \$12,215,000 in 1981. Revenue in 1982 increased 68% to \$20,464,000. The company has been profitable since inception. More than 1,000 companies worldwide use EXECUCOM's IFPS financial software.
- EXECUCOM entered into joint ventures with Computer Pictures, Wang, and Edunet for increased availability of the FPS product line. EXECUCOM also announced IFPS/Personal, a version, for IBM PC computers.
- The company's 196 employees are distributed as follows:

Marketing/sales	50
Software services, technical development, and customer support	70
Consulting services	20
General and administrative	<u>56</u>
	196

KEY PRODUCTS AND SERVICES

- Approximately 80% of EXECUCOM's 1982 revenue was derived from software product sales, 8% from related professional services, and 12% from software royalty payments.
- EXECUCOM's primary software product is the Interactive Financial Planning System (IFPS®), a financial and decision planning support package. IFPS is used for all aspects of planning including budgeting; profit reporting; long-range planning; market strategy; sensitivity, impact, and risk analysis; consol-

EXECUCOM SYSTEMS CORPORATION

idation; and evaluating new business ventures and alternatives. The system's ease of use features include an English-like modeling language. IFPS product sales generated 72% of EXECUCOM's 1981 revenue.

- IFPS, introduced in 1976, is written in FORTRAN IV and Assembler and runs on equipment manufactured by Amdahl, Burroughs, Control Data, Digital Equipment, Harris, Hewlett-Packard, Honeywell, IBM, Prime, and Univac. The system, with 600 installations, runs in either batch or interactive modes and licenses for \$64,000.
- The six IFPS subsystems combine to allow the evaluation of alternative futures by creating a model that describes changes in each variable over time. Subsystems include:
 - . The Executive subsystem specifies permanent files; lists, deletes, and copies models and reports; and combines and consolidates models and data files.
 - . The Modeling Language subsystem performs risk analysis, creates and edits models, provides model solution and reporting, and performs forecasting and other measurement functions.
 - . The Report Generator subsystem allows the user to define and customize reports.
 - . The Data File subsystem allows users to create, edit, or maintain IFPS data files.
 - . The Command Files stores IFPS commands and directions.
 - . The IFPS/Graphics subsystem allows the user to generate graphic output from a model on a terminal or line printer.
- IFPS is also available through Control Data Corporation's national timesharing network, Cybernet. There are an estimated 600 timesharing users.
 - . Royalties derived from EXECUCOM's IFPS agreement with Control Data generated approximately 10% of 1981 revenue.
- In 1981 EXECUCOM began marketing several new software products that run on the same equipment as IFPS. These products include:
 - IFPOS^{T.M.} (Interactive Financial Planning Optimization System), an executive strategic planning package that examines all alternatives and selects the most viable. IFPOS is used for solving optimization problems such as product mix pricing, investment analysis alternatives, and maximizing profitability. The package is priced at \$40,000.

EXECUCOM SYSTEMS CORPORATION

- IFPS/SENTRY^{T.M.}, a data entry utility package that facilitates entry of IFPS data file information through the use of data validation, editing, and interactive prompting techniques. The package is priced at \$12,000.
- IFPS/DATASPAN^{T.M.}, an interactive file transformation program that allows the user to easily extract information in existing data bases and reformat it as IFPS-compatible data files. The product licenses for \$10,000.
- MergEval^{T.M.}, a merger and acquisition decision support package that calculates post-combination financial statements, earnings per share, and combination-related cash flows for either pooling of interest or purchase transactions. MergEval prepares forecasted statements for individual firms as well as consolidated information including financial statements. The package is priced at \$12,000.
- EXECUCOM has several products in research and development:
 - An interactive color graphics package used to display information generated by IFPS in point, pie, curve, bubble, and bar graph form is due for release during March 1982.
 - MINDSIGHT^{T.M.} is designed to improve the effectiveness and efficiency of the group decision-making process. The package allows group members to vote, rate, and rank collective data and opinions and display this information in both graphic and numeric formats.
 - The company is currently developing a data base management system that will integrate all its software product offerings.
- EXECUCOM's professional services revenue is derived primarily from consulting services performed in support of IFPS.
 - Areas of expertise in IFPS planning and modeling include:
 - . System design and implementation.
 - . Integration of personnel into the planning/modeling process.
 - . Budgeting and control.
 - . Corporate planning models.
 - . Planning system support functions.
 - . Econometrics and statistical analysis.
 - Other areas of general consulting expertise include:
 - . Management science techniques in operations environments.
 - . Risk analysis techniques.
 - . Application of the theories of finance.
 - . Development and implementation of global planning systems.

EXECUCOM SYSTEMS CORPORATION

- Data base design and implementation.
- Integration of forecasting and planning.

INDUSTRY MARKETS

- EXECUCOM's 1982 revenue was distributed fairly evenly across industry sectors with only a small percentage derived from the government sector.

GEOGRAPHIC MARKETS

- Approximately 75% of EXECUCOM's 1981 revenue was derived from the U.S. and 25% internationally.
- U.S. office locations include Portland, San Francisco, San Diego, Austin, Houston, Dallas, Detroit, Cincinnati, Atlanta, Washington, D.C., St. Louis, Chicago, Milwaukee, Boston, Philadelphia, Boulder (CO), Ann Arbor (MI), and New York.
- International office locations include Toronto and Copenhagen.
 - EXECUCOM has 18 independent distributors located in Europe, Latin America, South Africa, the Far East, and Australia.

COMPUTER HARDWARE AND SOFTWARE

- EXECUCOM maintains the following equipment:
 - I Prime 750, PRIMOS.
 - I Prime 400, PRIMOS.

SUMMARY

- The company is a single-product entity with all the advantages and disadvantages that that entails. The company is not vulnerable technologically and is well managed.

COMPANY HIGHLIGHT

GTE TELNET INFORMATION SERVICES, INC.
Financial Services Division
100 Wall Street
New York, NY 10005
(212) 425-1470

Robert Halligan, Vice President
and General Manager
Wholly Owned Subsidiary of General
Telephone and Electronics Corporation
Total Employees: 500
Computer Service Revenue, Fiscal
Year End 12/31/82: \$37,000,000*
Market Value: Not determined

THE COMPANY

- The Financial Services Division of GTE Telenet Information Services, Inc. provides financial information to brokerage companies throughout the U.S.

SOURCE OF REVENUE

Interactive Processing Services	100%
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PRODUCTS AND SERVICES

- Introduced in 1978, GTE Financial System One is an investment information service reporting real-time trading information from stock, bond, option, and commodity exchanges. Through desktop video terminals manufactured by GTE, users make inquiries for market data as well as news retrieval, corporate business data, and research reports. The system also provides interoffice communication services including access to third-party electronic data bases for specialized information such as client account data.
 - By means of GTE's NewsBeat service, a user can be alerted to important stories that have appeared during the past 90 days on the Dow Jones newswire, in the Wall Street Journal or in Barron's.
 - Standard & Poor's Stock Retrieval Service is available on Financial System One for information on file on over 5,000 securities.
 - COMMLINK, introduced in 1980, allows Financial System One customers to connect GTE's host computer with the firm's computer. Information stored in the client's computer or other authorized third-party data bases, such as service bureaus, can then be accessed by the firm's branch offices via the GTE network.
 - The Option Monitor service offered by Monchik-Weber provides, via COMMLINK quotation information, systematic analysis, and theoretical valuation of all listed options. The service also offers rankings and market summaries.

*INPUT estimate

GTE TELENET INFORMATION SERVICES, INC.

- Financial System One has recently added Spectrum 3 and 4 Institutional Holdings Retrieval Service, offered by Computer Directions Advisors. This service provides quarterly report statistics on the equity holdings of all institutions with equity assets of \$100 million or more.
- There is a \$500 base price for GTE Financial System One. The typical customer expenditure is approximately \$1,500 per month per customer office.
 - There are currently 300 Financial System One customers.
 - The GTE quotation system is highly competitive with similar services offered by Bunker Ramo and Quotron.
- GTE Financial System One incorporates a stored program minicomputer in combination with two microprocessing units. The minicomputer is manufactured by GTE. One microprocessor interfaces to all communication lines while the other controls office desk units and printers. The microprocessors are manufactured by GTE as well.

INDUSTRY MARKETS

- One hundred percent of GTE Financial Services Division's revenue is derived from the U.S.
 - The Division does have, however, a joint venture agreement with Reuters News Service to offer Financial System One quotation services in Canada. The Canadian service is called Combined Market Quotations, Ltd.
- There is some concentration of GTE Financial Services Division's business in the major financial centers of the U.S., although there are quotation customers throughout the country.

COMPUTER HARDWARE AND SOFTWARE

- The GTE central computer center in Mt. Laurel (NJ) has the following equipment:
 - 1 IBM 4341 operating under OS/VSI.
 - 1 IBM 3031 operating under OS/VSI.
 - 2 Univac 492s operating under Real Time Executive.
 - 2 Univac 494s operating under Real Time Executive.
 - 2 DEC VAX 11/780s operating under VMS.
- Satellite centers are in Boston, Chicago, Cleveland, Dallas, Kansas City, Los Angeles, Miami, and San Francisco. Each satellite center has GTE-manufactured equipment.
- GTE Financial Services Division transmits on a dedicated leased line network.

GTE TELENET INFORMATION SERVICES, INC.

SUMMARY

- The company has many strong competitors in the news data base services, stock quotation services, and option monitoring services. The market is exceptionally strong, however, in either an up or down economy. The strength (or weakness) of management is not known.

COMPANY HIGHLIGHT

HOGAN SYSTEMS INC.
5080 Spectrum Drive
Dallas, TX 75248
(214) 386-0020

Richard Streller, President
Public Corporation
Total Employees: 95
Total Revenue, Fiscal Year End
3/31/83: \$17,100,000
Market Value: \$257 million

THE COMPANY

- Hogan Systems was founded in 1977 to market a group of software products that had been in development for two and one-half years. The company specializes in providing applications software for the banking and finance industry.
- Fiscal 1981 was the first year Hogan Systems actually sold and shipped its products, achieving a net profit of \$776,000 on total revenue of \$3.1 million. Revenue in fiscal 1982 increased 168% over 1981 and net income reached \$1.1 million. A five-year revenue summary follows:

HOGAN ASSOCIATES
FIVE-YEAR REVENUE SUMMARY
(\$ thousands)

ITEM \ FISCAL YEAR	3/83	3/82	3/81	3/80	3/79
Revenue	\$ 17,100	\$ 8,315	\$ 3,100	\$ 220	-
. Percent increase from previous year	106%	168%	1,309%	2,100%	N/A
Net income (loss)	\$ 3,700	\$ 1,107	\$ 601	\$ (558)	\$ (826)
. Percent change from previous year	234%	84%	N/A	N/A	N/A

- Management expects fiscal 1984 revenue will reach \$30 million.
- Effective July 1, 1981, Hogan Systems acquired the assets of On Line Delivery Systems, whose sole product was a manned teller terminal system. Terms of the acquisition were not disclosed.

HOGAN SYSTEMS INC.

- Hogan's 95 employees are divided by function as follows:

Marketing/sales	12
Customer support/training	22
Product development	46
General/administrative	<u>15</u>
	95

KEY PRODUCTS AND SERVICES

- One hundred percent of Hogan Systems revenue is derived from software product sales. Clients include commercial banks, savings banks, and savings and loans that have deposits of \$500 million or more. Hogan also has one computer services firm as a client.
- The software is designed to run on medium to large IBM mainframes and is available in on-line, real-time, or batch modes.
- Hogan's software is integrated within its Transaction System, which was developed to protect applications systems from changes in the computer operating environment. The system is divided into four groups of software.
 - The Processing Environment Manager (PEM) interfaces between applications software and the hardware and software environment.
 - Production Support (PS) provides a variety of commonly required facilities to centralize processing, store unprocessed data, and provide new capabilities to enhance all applications systems.
 - Applications Support (AS) provides a pool of program routines common to two or more applications systems.
 - Application Code is the program logic required to process transactions within an individual application system. Each application is written to operate independently of the hardware/software environment.
- Five applications systems are available:
 - Integrated Deposits System (IDS) - license fee \$185,000 to \$250,000 - supports all types of deposit instruments offered by financial institutions. It includes DDA and NOW accounts, regular savings accounts (both statement and passbook), club accounts, time deposit open accounts, retirement accounts (IRA, Keogh, SEPP), repurchase agreements, certificates of deposit, and overdrafts of line of credit services and debit card accounts.
 - Prophet System is comprised of a Customer Information System (CIS) and a Relationship and Product Management System (RPM).

HOGAN SYSTEMS INC.

- The Customer Information System (CIS) - license fee \$90,000 to \$125,000 - establishes and maintains all banking relationships between customers and accounts, maintains social and alias relationships between customers, and allows retention of data on noncustomers such as VIPs and loan applicants.
- Relationship and Product Management (RPM) - license fee \$90,000 to \$125,000 - provides customer profitability analysis, modeling, and product/pricing management.
- On-Line Delivery System (ODS) - license fee \$115,000 to \$150,000 - is a buffer and real-time controller for manned teller and ATM hardware.
- The UMBRELLA System - license fee \$115,000 to \$150,000 - acts as a software bridge between the applications programs and the various systems software (operating system, data base management, or data communications system). It simplifies application development, improves programmer productivity, and eases program maintenance. Changes in system software require changes in modules of UMBRELLA, not in the application programs.

- Two new software products are being developed:
 - Loan Systems (LS) will handle installment, mortgage, commercial, real estate, and other loans. Initial delivery is scheduled for June 1982 with final modules completed by mid-1983.
 - Credit Card System will provide cardholder accounting, authorization of purchase, merchant accounting, card control, and reissue. Delivery is scheduled for 1984.
- The full list of options on pricing and number of installations of Hogan's software systems is shown in the exhibit.

INDUSTRY MARKETS

Banking and finance 100%

GEOGRAPHIC MARKETS

- On March 9, 1983, Hogan formed Hogan Systems Ltd. as the European center for the marketing and sales of Hogan products.

United States	91%
Other (Canada, Athens, London, Tel Aviv, New Zealand, Australia)	<u>9%</u>
	100%

- Hogan Systems has branch offices in Los Angeles, Atlanta, and Concord (MA).

HOGAN SYSTEMS INC.

EXHIBIT

HOGAN SOFTWARE SYSTEMS

SYSTEMS	NUMBER INSTALLED	LICENSE FEE IBM/DOS VERSION	LICENSE FEE IBM/OS VERSION
<ul style="list-style-type: none"> ● The Transaction System <ul style="list-style-type: none"> — Processing Environment Manager — Production Support — Applications Support 	53	\$45,000 45,000 45,000	\$60,000 60,000 60,000
<ul style="list-style-type: none"> ● Deposit Systems <ul style="list-style-type: none"> — Demand Deposits — Time Deposits 	39 38	65,000 65,000	85,000 85,000
<ul style="list-style-type: none"> ● RPM and CIS <ul style="list-style-type: none"> — Relationship and Product Management — RPM and Limited Group I — Customer Information System — CIS and Limited Group I — RPM, CIS, and Limited Group I 	13 1 22 1 0	75,000 105,000 75,000 105,000 210,000	100,000 140,000 90,000 130,000 250,000
<ul style="list-style-type: none"> ● Special Use Licenses <ul style="list-style-type: none"> — Retirement Account Processing — NOW Account Processing — CDs 	1 1 0	100,000 100,000 100,000	125,000 125,000 125,000
<ul style="list-style-type: none"> ● Loans Systems <ul style="list-style-type: none"> — Loans Processing System — Mortgage Loans — Commercial Loans — Consumer Loans 	IN DEVELOPMENT	90,000	125,000
		60,000	75,000
		60,000	75,000
		60,000	75,000
● On-line Delivery System	1	75,000	100,000

COMPUTER HARDWARE AND SOFTWARE

- 1 IBM 4341, MVS, DOS.

SUMMARY

- Hogan is one of a new breed of software companies whose integrated system approach to applicational needs is hard to beat. Technologically the company is very safe and, given that the market for Hogan products is virtually infinite at this stage of Hogan's development, the economy does not play a great role. The management appears strong, if young.

COMPANY HIGHLIGHT

**INTEGRATED SOFTWARE SYSTEMS
CORPORATION (ISSCO)**
4186 Sorrento Valley Blvd.
San Diego, CA 92121
(714) 452-0170

Peter Preuss, President
Private Corporation
Total Employees: 163
Total Revenue, Fiscal Year End
12/31/82: \$16,623,000
Market Value: Not determined

THE COMPANY

- Integrated Software Systems Corporation (ISSCO), founded in 1970 by Peter Preuss, was a pioneer in the development of graphics software. The firm's two products, DISSPLA and TELL-A-GRAF, produce publication quality graphics for business and scientific/engineering uses in two and three dimensions.
- Revenue has grown by an average of 74% per annum since 1978. 1983 revenue should be approximately \$23 million. ISSCO recognizes 60% of license fees on delivery of the product and 40% upon installation.
- ISSCO has two international subsidiaries: ISSCO Deutschland, established in 1979, and ISSCO-UK Limited, established in 1981. ISSCO's products are also marketed by independent sales representatives in France, Israel, Japan, Italy, The Netherlands, Sweden, and Switzerland.
- Competitors are Tektronics, Hewlett-Packard, IBM, and CalComp. License fees constituted 83.7%, 87.1%, and 86.8% of revenue in 1980, 1981, and 1982 respectively.

INTEGRATED SOFTWARE SYSTEMS CORPORATION (ISSCO) FIVE-YEAR FINANCIAL SUMMARY (\$ thousands)

ITN	FISCAL YEAR	1982	1981	1980	1979	1978
Total revenue	\$ 16,623	\$ 10,705	\$ 6,453	\$ 3,083	\$ 1,798	
. Percent increase from previous year	55%	66%	109%	71%	NA	
Net income	\$ 1,749	\$ 1,052	\$ 787	\$ 290	\$ 150	
. Percent increase from previous year	66%	34%	171%	93%	NA	

KEY PRODUCTS AND SERVICES

- One hundred percent of ISSCO's revenue is derived from its graphics software products, either through direct in-house sales, OEM sales, or royalty payments from processing services.
- DISSPLA and TELL-A-GRAF generate full color line, bar, and pie charts; tables and text; three-dimensional designs and charts; maps; and contour plots. These can be produced on more than 80 types of graphic output devices on media including paper, overhead transparencies, 35mm slides, motion picture film, and CRT screens.
 - Each product is perpetually licensed to the user for a one-time fee of \$19,500 to \$45,000.
 - Software support includes on-site installation and training, automatic updates, complete documentation, hotline service, and problem analysis. Support for the first year after licensing is included in the license fee. Subsequently the customer pays an annual fee equal to 12% of his perpetual license fee.
 - There are over 1,200 installations of ISSCO software, with approximately 100,000 users.
- DISSPLA (Display Integrated Software System and Plotting Language) introduced in 1970, is written in FORTRAN and can be used with COBOL, PL/I, PASCAL, ALGOL, Assembly Language, and any other language that is FORTRAN compatible.
 - DISSPLA operates on 32-bit or larger minicomputers or mainframes, including IBM, Burroughs, Control Data, DEC, Honeywell, Perkin-Elmer, Prime, Univac, and Cray.
 - Six optional enhancements are available:
 - . World Coastline (mapping).
 - . Contouring.
 - . Business Enhancements (elaborate business graphics).
 - . Page Layout. (automatic placement of multiple plots on the page, with or without software typesetting).
 - . Shaded Fonts (ultra-high resolution, high-quality character fonts, for presentation quality graphics).
 - . DISSPOP (a post-processor which allows separation of the main program from the actual graphics output, enabling graphics to be processed at a future time).
 - DISSPLA has undergone many revisions. The latest, DISSPLA 9.0, added the capability to produce complete camera-ready artwork.
 - There are currently 550 installations of DISSPLA.

INTEGRATED SOFTWARE SYSTEMS CORPORATION (ISSCO)

- TELL-A-GRAF was introduced in 1977 to provide computer graphics for business executives with little or no computer background. Simple English commands, entered on a video display terminal, generate graphics output. TELL-A-GRAF version 4.0, introduced in February 1981, produces, for the first time, true publication quality graphics. Earlier versions did not utilize improvements such as use of drop shadows, attention to line weight, and restriction of all text in a chart to a family of similarly styled typefaces.
 - Operational on 32-bit or larger mainframes and minis, TELL-A-GRAF runs on IBM and plug-compatible mainframes, as well as computers by Prime, DEC, and Perkin-Elmer.
 - Optional enhancements include:
 - Shaded Fonts.
 - Post-Processor.
 - The Presentation Facility (generates pages of text for presentation with graphics).
 - Bank Data (a series of subroutines that allow TELL-A-GRAF to access any applications program or data base).
 - The latest version, TELL-A-GRAF 4.1, features more sophisticated graphics and improved ease of use.
 - There are 450 installations of TELL-A-GRAF to date.
- CUECHART, recently introduced for use with TELL-A-GRAF, simplifies the production of graphs.
- Most major timesharing vendors offer ISSCO's products on their networks. These include AVCO Computer Services, Boeing Computer Services, CDC Cybernet, Comshare, CSC Infonet, GEISCO, National CSS, Tymshare, and University Computing Company. Approximately 5% of ISSCO's revenue is derived from license agreements with service bureaus.
 - Service bureaus pay a monthly royalty based on the number of vectors drawn.
- Approximately 90% of ISSCO's revenue is derived from sales directly to end users. Prior to establishing its own sales force in 1981, products were marketed through contracted agents.
- ISSCO licenses DISSPLA and TELL-A-GRAF to about five OEMs. Approximately 5% of ISSCO revenue comes from OEM licensing.
- ISSCO plans to offer a much more extensive family of graphics products in the future including enhancements for ease of use, data access, and higher quality graphics.

INTEGRATED SOFTWARE SYSTEMS CORPORATION (ISSCO)

- The DATA CONNECTION, also recently introduced, automatically enters data into TELL-A-GRAF by retrieving data stored in a user's computer.

INDUSTRY MARKETS

- Products are marketed to large- and medium-sized organizations in all industry sectors. Approximately 80% of ISSCO's revenue is from commercial customers, and 20% comes from federal and state governments.
- The business market for ISSCO's software has been expanding more rapidly than the scientific/engineering market, and the company expects this trend to continue. Currently about 75% of ISSCO's commercial installations are used for business applications, and 25% are used for scientific/engineering applications.

GEOGRAPHIC MARKETS

U.S.	85%
International	15%
Europe	(10%)
Canada	(2%)
Other	(3%)

- Sales offices are located in San Diego, Houston, Dallas, Philadelphia, Orange County (CA), Chicago, Atlanta, Boston, Washington, D.C., New York City, Tampa, and San Francisco.

COMPUTER HARDWARE

- ISSCO uses the following mainframes and minicomputers for software development:
 - | IBM 370/165.
 - | DEC VAX 11/70s.
 - | Perkin Elmer
 - | Prime 750.
 - | CDC 7600.
 - | Univac 1110.

SUMMARY

- The company has established a strong niche in a developing software market (graphic reduction and display of data). Technologically the company is sound, and it has few real competitors. The management is dynamic and mature.

COMPANY HIGHLIGHT

THE KIRCHMAN COMPANY, INC.
(Florida Software Devices)
711 E. Altamonte Avenue
Altamonte Springs, FL 32701
(305) 831-3001

Kenneth P. Kirchman, President and
Chairman
Private Corporation
Total Employees: 800
Total Revenue, Fiscal Year End
3/31/82: \$46,000,000*

THE COMPANY

- Kirchman was started in 1969 with the intention of developing and marketing software products and made an early decision to concentrate on financial applications. Kirchman now supplies software systems primarily to commercial banks for batch processing of financial applications.
- Revenue in fiscal year 1982 was approximately \$46 million, a 33% increase over fiscal year 1981.
- Kirchman presently has two divisions: Florida Software Services (FSS), which markets the 14 software systems, and Florida Computer Services, which provides processing services.
- FSS maintains constant communication with its users through F.U.R.S.T. (Florida Software Services Users Researching System Together), a separate user group sponsored by Florida Software but independent of the company. Chartered in 1975, F.U.R.S.T. now has a membership of 1,400 banks. The group meets annually to provide FSS management with feedback about how systems might be enhanced and to provide input about new systems FSS might develop.
- Kirchman has 800 employees distributed approximately as follows:

Marketing/sales	72
Software services/ customer support	520
Computer operations	160
General and administrative	<u>48</u>
	800

KEY PRODUCTS AND SERVICES

- Florida Software Services is a leader in bank application software packages. Software products account for 75% of revenue, and processing services account for 25%.

*INPUT estimate: Kirchman will not disclose data.

THE KIRCHMAN COMPANY, INC.

- The 14 software products available from Florida Software Services are described below:
 - Central Information File (CIF II) has total access to all application master file information. On-line inquiry includes: on-line statements, history information, credit information, payment information, stops, holds, floats, assignments, ledger and available balances, payoffs, and IRA payment schedules. CIF II is also designed to generate highly detailed "relationship" information. There are currently 16 systems installed.
 - Certificates of Deposit III (CD III) automates routine clerical chores while also keeping the user up to date on rapidly changing federal regulations. The system provides a comprehensive set of daily, monthly, and year-end reports and produces a complete, clear audit trail. There are 219 CD III systems in use.
 - The Check Reconciliation system produces reports that cover the entire checking process from start to finish: maintenance, checks issued, checks paid, and a comprehensive checks outstanding report. The system permits check reconciliation within predetermined plus or minus ranges and will group checks by length of time outstanding. A billing statement is produced that allows the user to charge each account on a per item and/or minimum billing amount basis. There are eight installations of this system.
 - Commercial Loan provides immediate access to information such as investor remittance data, loan type balances, participation reports, geographic loan analyses, interest rate change reports and future maturities information. One hundred forty-nine systems have been installed.
 - Dealer Floor Plan II features include calculation of interest using average daily in actual balance, curtailment and flat fee billing, variable statement dates, inventory audit reports, prime rate change notices, and management reports including credit line commitment penalty, UCC expiration, yield units, and dollars. There are currently 72 installations.
 - Demand Deposit IV (DDA IV) offers state-of-the-art accounting functions for demand deposit accounts, credit line services, automatic transfers, and NOW accounts. DDA IV has been installed at 102 locations.
 - Financial Management/General Ledger (FM/GL II) enables each user to design a chart of accounts to control content, format, and frequency of numerous comparative financial reports. FM/GL II also includes complete cost accounting, budgeting, and forecasting functions. There are 95 installations of the FM/GL II system.

THE KIRCHMAN COMPANY, INC.

- Installment Loan IV (ILIV) offers the user the flexibility to choose from a wide range of loan types, accrual and rebate methods, payment schedules, and fees. The system includes a Bank Control Record (BCR), which allows for the customization of individual requirements for every organization and branch on the system while maintaining them all on the same master file for ease of operation. IL IV has been installed at 158 locations.
- Mortgage Loan Extended (MLX) offers thorough warehousing and investor reporting capabilities. It provides complete and flexible processing of all types of mortgage loans while allowing the user to choose from a virtually unlimited combination of loan types, accrual methods, interest calculations, payment methods, and billing cycles. One hundred forty-seven systems have been installed.
- The Payroll system features a choice of pay cycles, payment types, and deductions. Reports are available on payroll expenses, quarter-to-date and year-to-date totals, labor distribution data for distributing salaries by cost center and for project. With 92 installations, both the system and the documentation are continually updated to reflect changing federal reporting requirements.
- Savings System III (SAV III) processes a variety of savings accounts including regular savings, club accounts, corporate, golden passbook, passbook, and IRA. The system offers 98 different types of savings accounts, 14 different types of fund transfers within savings and between checking and savings. SAV III has a built-in alternate name/address mailing capability. With SAV III each type of savings account can be set with its own method of interest payment. Through the use of an Organizational Control Record, each organization/branch can have its own set of processing parameters. SAV III is a new FSS product.
- Stock Transfer maintains company stockholder records. It generates information that helps the user monitor stock certificate buys and sells. The system maintains a complete history on every certificate, telling who owns what certificates and how many they own. The entire proxy cycle is also handled by this system including the generation and tabulation of voting results, the production of cash dividend checks, stock dividends, stock splits, and warrants.
- Supplies Inventory Control System informs the user of inventory: what is needed, what it costs, who the vendor is, what is on order, who is using the supplies in what department, and how efficiently they use them compared to other departments. There are 78 installations of the Supplies Inventory Control System.
- All of Florida Software's systems operate with a multibank/multibranch capability that allows each bank to select its own processing parameters. Clients can select reports by bank/branch, establish bank policies on accruals, year base, run frequencies, processing days, and statement cycles.

THE KIRCHMAN COMPANY, INC.

- FSS software systems range in price between approximately \$3,000 and \$40,000 depending on hardware. All systems are modular and provide information both through reporting and on-line. The FSS systems are written in COBOL for operation on IBM Systems 360/370/30XX/43XX with DOS or OS environments or for Burroughs B2805.
- Florida Computer Services Division offers remote batch processing services for approximately 60 banks in the state of Florida. All of FSS's financial applications are available on a network comprised of leased and WATS lines. Data centers are located in Tallahassee, Florida as well as at the headquarters location in Altamonte Springs.

INDUSTRY MARKETS

- Almost one hundred percent of FSS's revenue is derived from the banking industry: commercial banks and thrift institutions.
 - In addition to banks, FSS provides processing services on its network for payroll, check reconciliation, library past due, and apartment billings management.
 - Prior to spring 1979, FSS provided limited facilities management to the medical industry through Florida Medical Services. This division has been phased out.

GEOGRAPHIC MARKETS

- FSS products are currently used by over 1,500 banks nationwide. There are FSS installations in New Zealand and Canada as well.

COMPUTER HARDWARE AND SOFTWARE

- Each of the FSS data centers operates one IBM System/370 Model 148 running under DOS.

SUMMARY

- An excellent acquisition target with enormous potential. The company is strongly directed, with well-established software products that compete well in their respective markets.

COMPANY HIGHLIGHT

MANAGEMENT SCIENCE AMERICA, INC.
3445 Peachtree Road, N.E.
Atlanta, GA 30326
(404) 239-2000

John P. Imlay, Chairman and CEO
William M. Graves, President and COO
Public Corporation, OTC
Total Employees: 1,400
Total Revenue, Fiscal Year End
12/31/82: \$101,000,000
Computer Services Revenue:
\$70,568,840
Market Value: \$354 million

THE COMPANY

- Management Science America, Inc. (MSA), founded in 1963, develops and markets financial management, human resource, cash management, and manufacturing applications software packages for use on medium- to large-scale mainframes. The company also markets general business, office productivity, and vertical market software products for microcomputers. MSA is the largest independent international supplier of packaged software products.
 - MSA went public in April 1981, generating \$15.9 million in net proceeds from the sale of 1,650,000 shares of its common stock. Of the shares, 1.1 million were sold by MSA and 550,000 by the selling stockholders. Of the proceeds, \$2.7 million was used to pay off the debt incurred for the purchase of computer equipment, and approximately \$660,000 was used to retire debentures and equipment notes as part of the acquisition of Peachtree Software. The remaining \$12.6 million was invested in short-term instruments as of December 1981. A portion of the proceeds will also be used to fund MSA's Arista Manufacturing Systems acquisition.
 - In May 1982 MSA completed its second public stock offering of 710,000 shares. MSA sold 321,000 shares, and certain stockholders sold the remainder. MSA proceeds of \$6.4 million will be used for working capital and acquisition purposes.
 - On November 17, 1982 MSA announced a 2-for-1 stock split, payable December 17, 1982, which doubled the number of MSA common shares from approximately 7 million to 14 million.

MANAGEMENT SCIENCE AMERICA, INC.

MANAGEMENT SCIENCE AMERICA, INC
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	\$ 101,244	\$ 73,139	\$ 53,724*	\$ 39,397*	\$ 26,112
. Percent increase from previous year	38%	36%	36%	51%	40%
Income before taxes and extraordinary item	\$ 14,166	\$ 10,112	\$ 5,360	\$ 5,466	\$ 2,400
. Percent increase (decrease) from previous year	40%	89%	(2%)	125%	100%
Net income	\$ 8,955	\$ 5,487	\$ 2,912	\$ 2,591	\$ 1,112
. Percent increase (decrease) from previous year	63%	88%	12%	128%	100%
Earnings per share	\$ 0.62	\$ 0.41	\$ 0.27	\$ 0.23	\$ 0.11
. Percent increase (decrease) from previous year	51%	52%	17%	130%	100%

* Financial information for 1979 and 1980 has been restated to account for the acquisition of Peachtree Software Incorporated on a pooling-of-interests basis.

- Growth in 1981 revenue was due primarily to the greater volume of products sold and general price increases.
- Net income and income before taxes declined as a percent of revenue in 1980 as a result of MSA expenditures related to an increased level of marketing, product and educational facility enhancement efforts, an increase in foreign personnel, and computer center expansion.
- Substantial increases in net income and income before taxes in 1979 were the result of higher prices from the addition of on-line and data base capabilities to existing products, MSA's acceptance of multiyear support agreements, and the company's successful entry into Australia. The result was that revenue grew without an accompanying increase in many expense areas.
- Research and development expenditures were \$16.4 million (22% of revenue) and \$12.8 million (24% of revenue) in 1981 and 1980 respectively.

MANAGEMENT SCIENCE AMERICA, INC.

- Management expects 1982 revenue and net income to increase 30% to 35% over 1981. Historically, MSA generates almost all its net income in the final quarter of the year.
- MSA acquired the following companies during the past two years:
 - In August 1980 MSA acquired the Q-Pac Payroll Software System and the outstanding capital stock of Q-PAC America, Inc. and Q-PAC Services Ltd., for \$1.7 million in cash and notes. The acquisition facilitated the company's move into foreign markets, enabling MSA to offer a human resource system internationally.
 - In June 1981 MSA acquired Peachtree Software Incorporated in a cash and stock transaction worth approximately \$5.5 million. Terms of the acquisition included the distribution of 222,212 shares of MSA common stock of shareholders and option holders of Peachtree and the purchase of certain Peachtree debentures for \$452,500 plus \$1,500 accrued interest.
 - Peachtree Software, based in Atlanta, operates as an MSA subsidiary providing financial and office productivity software to microcomputer users. Peachtree has approximately 130 employees.
 - Peachtree revenue for calendar 1980 was approximately \$2 million, with a net loss of \$294,000. Calendar 1981 revenue was approximately \$3.3 million with break-even operations.
 - During the first nine months of 1982, Peachtree revenue increased 140% over the same period in 1981.
 - Management expects revenue to more than double in 1982, contributing 8% of total MSA revenue.
 - In January 1982 MSA acquired the Arista Manufacturing Systems Division of Xerox Corporation. MSA agreed to pay Xerox \$4 million during 1982 and to assume certain obligations under existing customer contracts. Xerox has agreed to pay MSA \$2.4 million during 1982 to complete development of certain software packages required to be furnished under these contracts. MSA will account for the acquisition using the purchase method.
 - Arista, based in Winston-Salem (NC), markets manufacturing management applications software for use on IBM and plug-compatible mainframes.

MANAGEMENT SCIENCE AMERICA, INC.

- . With revenue in the \$2-3 million range, Arista has approximately 70 employees and will operate as part of MSA's new Manufacturing Systems Division. Arista products are undergoing further development by MSA, and no significant revenue is expected for 1982.
- MSA's five international subsidiaries are:
 - Management Science America (Canada) Ltd., headquartered in Toronto.
 - MSA International, Inc., headquartered in Maidenhead, Berkshire (U.K.).
 - MSA (Management Science America) Limited, headquartered in Maidenhead, Berkshire (U.K.).
 - Management Science America (Australia) Pty. Ltd., in North Sydney.
 - Peachtree Software International Ltd., headquartered in Maidenhead, Berkshire (U.K.), was formed in late 1981 to market Peachtree products internationally.
- MSA had 1,002 employees in December 1981 and over 1,200 in September 1982.
- Major competitors for MSA's financial software include McCormack & Dodge, Software International (GEISCO), and University Computing. Major competitors of Peachtree Software are Micropro International, VisiCorp, and Systems Plus.

KEY PRODUCTS AND SERVICES

- MSA revenue for the past three years was derived as follows:

	<u>1982</u>	<u>1981</u>	<u>1980</u>	<u>1979</u>
Software package license fees	\$70.1	\$50.8	\$39.4	\$28.6
Support agreement fees	22.6	16.4	11.1	8.3
Customer education	3.2	2.1	1.4	0.8
Investment income	4.1	1.3	1.2	1.2
Interest	<u>1.3</u>	<u>2.5</u>	<u>0.6</u>	<u>0.5</u>
	\$101.3	\$73.1	\$53.7	\$39.4

- Increase in interest revenue in 1981 is the result of the investment of public offering proceeds in short-term instruments.
- The majority of MSA's 1981 software product revenue was derived from general business packages for mainframes. The company specializes in

MANAGEMENT SCIENCE AMERICA, INC.

designing, constructing, enhancing, and marketing financial management and human resource software packages. MSA has over 7,500 installations of its mainframe products in over 4,000 organizations.

- MSA's two most widely used products are the Human Resource and General Ledger/FICS systems. General Ledger/FICS has generated over \$70 million in revenue. MSA's Human Resource system is the first and only applications software product to generate over \$100 million in revenue.
- A five-year summary by functional area of revenue derived from mainframe software product license and support contracts is shown below (\$ thousands).

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Financial Management	\$ 52,480	\$ 39,234	\$ 28,077	\$ 19,906	\$ 12,682
• Percent of total license and support revenue	64%	60%	56%	54%	49%
Human Resources	\$ 29,520	\$ 26,482	\$ 21,971	\$ 17,258	\$ 13,082
• Percent of total license and support revenue	46%	40%	44%	46%	51%

- Applications software offered by MSA is written in ANSI COBOL and operates on IBM 360, 370, 303X, 308X, and 4300 Series computers and on Burroughs B3500, 4700, 5900, 6700, and 6800 computers. Some systems are also offered on Honeywell, Digital Equipment Corporation, NCR, Amdahl, and Univac equipment. Packages running on non-IBM (or compatible) equipment accounted for approximately 10% of 1981 revenue.
- MSA offers on-line versions of most of its packages and also provides versions of its products for a variety of data base management systems. Packages may be purchased individually or as an integrated system.
- A summary chart of MSA's mainframe applications software is presented in Exhibit A. Products include:
 - General Ledger/Financial Information and Control System (GL/FICS), an industry-independent general ledger system with specialized options for the financial, educational, government, and insurance industries. The system accepts input from all other MSA packages, passing historical information to a budget and planning module and to the Financial Forecasting and Modeling System. Also included are exception and custom reporting options and graphics display features.

MANAGEMENT SCIENCE AMERICA, INC.

EXHIBIT A

MSA SOFTWARE PRODUCTS

PRODUCT	NUMBER OF INSTALLATIONS
● Financial Management	
– General Ledger/FICS	1,100+
– Forecasting and Modeling	102
– Accounts Receivable	301
– Accounts Payable and Purchase Order Control	463
– Inventory and Purchasing	264
– Fixed Assets Accounting	566+
– Currency Management	NEW
– System 43	NEW
● Human Resources	
– Personnel Management and Reporting	638
– Payroll	1,260
– ALLTAX ^{T.M.} Taxing System	2,500+
– ALLTAX ^{T.M.} Reporter	NEW
– International Payroll/Personnel (Q-PAC)	400+
● Manufacturing	
– MSA Manufacturing System	100
. Manufacturing Standards	
. Inventory Record Control	
. Historical Forecasting	
. Master Production Scheduling	
. Material Requirements Planning	
. Capacity Requirements Planning	
. Shop Floor Control	
. Procurement Management	
. Cost Management (Under Development)	
. Simulation Requirements Planning (Under Development)	
TOTAL	7,694

MANAGEMENT SCIENCE AMERICA, INC.

- GL is a modular system that includes subsystems for general ledger posting, budget and planning, and cost accounting. Specific applications include U.S. and foreign currency conversion, cash flow modeling, variable budgeting, and corporate consolidations. Encumbrance accounting assists government and educational institutions in the budgeting process.
- FICS is designed to assist commercial banks and thrift institutions with internal bank fund transfer evaluations and financial and responsibility reporting.
- GL/FICS was expanded in 1981 to include posted transaction inquiry, on-line report maintenance, and EASY-PLAN^{T.M.}, an on-line budgeting module.
- Forecasting and Modeling is a user-oriented system providing tools for modeling, forecasting, and analyzing business alternatives, financial trends, asset/liability management, and cash flow and revenue projections. Features include time series analysis and curve fitting, automatic seasonal adjustment, and regression, sensitivity, and risk analysis.
- Accounts Receivable provides comprehensive reporting of credit, collection, and historical information. Features include automatic cash application, finance charge computation and posting, and collection correspondence; balance forward and open item processing; deduction audits; daily cash forecasting; and aged trial balance, daily exception, and customer status reports.
- Accounts Payable and Purchase Order Control analyzes invoices, determines payment dates, and provides information for funds transfer. During 1981 Purchase Order Control facilities were added to integrate Accounts Payable with MSA's Inventory and Purchasing System. The system includes the following features:
 - Aged trial balance.
 - Posting of variances between standard and purchase costs.
 - A variety of payment types and schedules.
 - Five years of vendor history.
 - Ongoing tax calculations and records.
 - Expense distributions, reimbursements, and tracking of standing advances.
 - A variety of check-writing capabilities.
 - Check reconciliation (optional).
 - Projections of cash applications and a register of bank requirements.
- Inventory and Purchasing provides inventory control functions for expendable supplies and materials. Features include open purchase order status and purchasing activity reports; inventory status, calcula-

MANAGEMENT SCIENCE AMERICA, INC.

tions, projections, and control; comprehensive demand history reports; automatic purchase order issuance; and on-line inquiry for inventory status and open purchase order data.

- Fixed Assets Accounting facilitates accounting for asset acquisitions, transfers, and dispositions. Historical cost, current cost accounting, and depreciation information are maintained for each asset to provide for financial and tax reporting. Lease, current cost, and constant dollar accounting are provided through reporting facilities that comply with all current regulations. The system complies with the Economic Recovery Act of 1981.
- The Currency Management System, developed by MSA and introduced in 1982, monitors exchange information and calculates realized and unrealized gain or loss on currency exchange. Alternate payment methods available include various types of check formats, notes, drafts, and transfers on hard copy, tapes, or diskettes.
- MSA's Human Resource System consists of two major components, Personnel Management and Reporting and Payroll.
 - . Personnel Management and Reporting has seven optional modules built around a central data base of personnel information.
 - The central data base contains personal data, government reporting information, skills inventories, educational background, performance information, and other data for each employee. Extensive reporting facilities are available. A flexible screen generator allows user-defined screens and on-line security.
 - Optional modules are Benefits/ERISA, Job and Position Control, Life-to-Date History, Lost Time/Health and Safety, Affirmative Action/Applicant Flow, Career Development, and Labor Relations.
 - . Payroll calculates salaries of hourly and salaried employees including withholding taxes, calculating and processing deductions and other earnings, printing checks, and standard and special reports. Payroll Accounting may be integrated with MSA's Personnel Management and Reporting system and interfaced to any general ledger system.
 - Federal, state, county, and city income taxes are calculated using MSA's ALLTAX software. Canadian and provincial income taxes can also be calculated and deducted.

MANAGEMENT SCIENCE AMERICA, INC.

- Direct deposit services are available. They include deposit of all or part of the pay into bank or thrift accounts or for payment against personal or mortgage loans. Automated Clearing House (ACH), 401 (K), and IRA direct deposits are also handled.
- Typical services include transaction loading and validation, payroll master file update, payroll computation, data extraction for checks and reports, check printing, report printing, on-line inquiry, and maintenance. Additional, optional services include time card balancing, earnings history printouts, cost and labor distribution processing, check reconciliation, stop payment, and automatic check reversal generation.
- ALLTAX^{T.M.} Taxing System functions as a module of the MSA Payroll System or the customer's in-house payroll system, calculating federal, state, city, and county withholding taxes as well as disability, FICA, FUI, and SUI. Computations use a standard formula and a variable factors table that is updated to reflect changes in tax rates and reporting requirements. The Canadian function calculates Dominion and Provincial taxes, UIC, and Canadian and Quebec Pension Plans.
- The ALLTAX REPORTER^{T.M.}, introduced in November 1981, provides regulatory tax reporting on continuous paper forms and/or on magnetic tape for the U.S. and Canadian governments, individual states, territories, and local tax jurisdictions. The system derives information required for reports from the user's payroll files and produces audit reports for verification of tapes before printing. A COBOL subsystem interfacing with most payroll systems, the REPORTER may be purchased separately to keep users updated with changing regulations.
- International Payroll/Personnel (Q-PAC) is an automated payroll calculation and disbursement and personnel information and reporting product designed for use outside North America. The system interfaces with GL/FICS providing information regarding foreign payroll expenses, taxes, and benefit items. Statutory compliance, banking specifications, and other country-unique requirements are maintained for the United Kingdom, Australia, and South Africa.
- Recent enhancements to MSA's mainframe software line include the following:
 - During 1981 the company introduced EASY-SCREEN^{T.M.}, an on-line screen generator, and its real-time module, EASY-AUDIT^{T.M.}, enhancing on-line facilities across the MSA product line.
 - The MSA Color Graphics module was also introduced in 1981 for use with MSA's General Ledger and Forecasting and Modeling systems. The system generates color-coded charts and graphs and uses IBM color graphic hardware and software.

MANAGEMENT SCIENCE AMERICA, INC.

- In September 1982 MSA introduced HELP, a tutorial facility providing accountants and managers with on-line access to instructions for using any of MSA's on-line systems, including error correction. HELP is available at no cost to customers with maintenance contracts.
- In March 1982 MSA released System 43^{T.M.}, a full line of business applications software for use on IBM 4321/4331 computers running under IBM's SSX operating system. Applications available include general ledger, accounts receivable and payable, fixed assets, inventory and purchasing, forecasting and modeling, and payroll and personnel reporting. System 43 has expanded MSA's marketing base to include clients with limited programming staffs, smaller mainframes, and decentralized processing facilities. The systems are a result of IBM's selection of MSA to participate in SSX field testing in 1981.
- MSA offers the MSA Manufacturing System, an integrated set of manufacturing applications for mainframes, as a result of its January 1982 acquisition of Arista Manufacturing Systems. The applications are marketed to both discrete and process manufacturers, which already compose over one-third of MSA's client base.
 - The products run on IBM 360, 370, 303X, and 4300 Series and on plug-compatible equipment under DOS and OS and are being developed for use on the HP 3000.
 - Written in ANS COBOL for both on-line and batch environments, there are over 100 installations of the MSA Manufacturing System in 25 states and Canada. MSA will market the system worldwide. Available modules are outlined in Exhibit A.
 - In October 1982 MSA announced the Extended Closed Loop^{T.M.} Manufacturing System. The system will provide the first total integration of business and manufacturing applications and will be based on MSA products. Advantages include reduced implementation costs, avoidance of perpetual system interface delays, and elimination of manual interfaces and information redundancy.
- The company announced two joint marketing and development agreements in 1982 that will increase MSA software product distribution for non-IBM mainframes while decreasing related development costs.
 - In June 1982 MSA finalized an agreement with Honeywell for cooperative development and marketing of eight MSA financial and human resource packages. Honeywell is converting on-line and data base versions of MSA products to operate on its DPS 8 and Level 66/DPS mainframes running under GCOS III and GCOS 8.
 - . Under the agreement, Honeywell will provide on-site software maintenance, and MSA will provide education and training.

MANAGEMENT SCIENCE AMERICA, INC.

- Honeywell will pay MSA a minimum of \$1.5 to \$2 million, plus royalties, over a five-year period beginning in 1983.
- The packages, some of which will be available beginning in January 1982, will be priced at \$50,000 to \$60,000.
- In September 1982 MSA announced a similar agreement with Sperry Univac for cooperative development and worldwide marketing of MSA products for users of Univac Series 1100 computers.
 - MSA packages to be used include General Ledger, Accounts Receivable, Accounts Payable and Purchase Order Control, Inventory and Purchasing, Fixed Assets Accounting, Cash Management, Personnel Management and Reporting, and Payroll.
 - Several of the products are available immediately, with batch and on-line versions for all products planned for 1983.
- In August 1982 MSA reached an agreement with Software AG to cooperatively develop interfaces between its general ledger, accounts receivable and payable, and human resources packages and Software AG's ADABAS data base management system. The interfaces, called the ADABAS/MSA Capabilities, will be marketed and supported by Software AG.
- In August 1982 MSA announced the integration of its mainframe and microcomputer software through PeachLink^{T.M.}, a software link which will enable managers to transfer information from the corporate data base to a personal computer for desktop analysis and distributed accounting at remote locations.
 - The integrated systems will emphasize business applications and use MSA's Application Network Architecture, a new architecture for applications networks that uses a functional layer concept.
 - Several integrated mainframe/microcomputer applications packages will be released during the next year. One package, MSA Executive PeachPak, will be targeted at large corporations and sold in bundled packages of 10 for \$30,000 (\$3,000 per unit). Executive PeachPak includes the following Peachtree applications:
 - PeachText^{T.M.} word processor, including Spelling Proofreader, Dictionary, and Thesaurus.
 - Mailing List Manager.
 - Business Graphics System.
 - PeachCalc^{T.M.} II (modified for use with mainframes).
 - PeachLink.

MANAGEMENT SCIENCE AMERICA, INC.

- The integrated software will be sold through MSA's direct sales force for mainframe software packages, opening a new distribution channel for microcomputer products.
- MSA offers general business, office productivity, and vertical market software products for microcomputers through its Peachtree Software Incorporated subsidiary. Clients are primarily small businesses with revenue of \$500,000 to \$15 million in the distribution and services (CPAs, lawyers, etc.) industries. Peachtree has licensed over 50,000 microcomputer packages. Products are outlined in Exhibit B.
 - Most packages can operate in combination with other Peachtree products. Products may be used on any Z80-, 8080-, or 8085-based microcomputer running under CP/M. Peachpak 40 software is designed for the Apple II and PeachPak 4 software runs on the IBM Personal Computer.
 - . Most packages are written in Microsoft BASIC. Some are written in assembly language and CIS COBOL.
 - Peachtree products are marketed through four distribution channels.
 - . During 1981 Peachtree products were marketed by over 900 dealers. In April 1982 the company began offering a new, more exclusive dealership plan that includes authorized software centers, intensified dealer support of products, and increased dealer support from Peachtree. There are currently 250 dealers under the new plan.
 - . Products are also licensed directly to customers by Peachtree.
 - . Twelve microcomputer vendors market the products under royalty agreements.
 - . In August 1982 Peachtree began marketing its products through micro software distributors. Distributors, expected to number eight by the end of 1982, currently include Softsel Computer Products, Inc., Micro Distributors, Inc., Software Distributors, Inc., Byte Industries, and Citation Software (Canada).
 - New services made available by Peachtree in 1981 include:
 - . PeachTax^{T.M.}, a subscription service for users of the PeachPay^{T.M.} payroll accounting package. PeachTax updates users on the latest payroll tax structure changes, allowing for customization of federal, state, and local tax withholding requirements for a user's specific location. The PeachTax service is priced at \$200 per year.

MANAGEMENT SCIENCE AMERICA, INC.

EXHIBIT B

PEACHTREE SOFTWARE INCORPORATED*
SOFTWARE PRODUCTS

PRODUCT	MODULES	SUGGESTED RETAIL PRICE PER MODULE
PeachPak 8 Accounting Series (Formerly Series 5)	General Ledger, Accounts Receivable, Accounts Payable, Sales Invoicing, Inventory, PeachPay ^{T.M.} Payroll	\$750 Each Module
PeachPak 4 Accounting Series (Formerly Series 4)	General Ledger, Accounts Receivable, Accounts Payable, Inventory	\$600 Each Module
PeachPak 4 - For the IBM Personal Computer	General Ledger, Accounts Receivable, Accounts Payable	\$600 Each Module
PeachPak 40 Accounting Series (Formerly Series 40) - For the Apple II	General Ledger, Accounts Receivable, Accounts Payable, Inventory	\$400 Each Module
PeachPak 6 Client Accounting Series (Formerly Series 6) - For CPAs	Client Posting and Accounting Passive Payroll	\$1,500 \$ 600
PeachPak 7 Accounting Series (Formerly Series 7) - Sales Tracker ^{T.M.} COBOL Sales Order Processing Packages	Accounts Receivable and Sales Analysis Order Entry Inventory	\$2,000 \$1,000 \$1,400
PeachPak 9 Office Productivity Series (Formerly the Magicians)	PeachText ^{T.M.} Word Processor (Formerly Magic Wand ^{T.M.}) Spelling Proofreader PeachCalc ^{T.M.} Electronic Spread Sheet Mailing List Manager Telecommunications Calendar Management System Random House Thesaurus	\$ 500 \$ 300 \$ 375 \$ 375 \$ 375 \$ 200
PeachPak 10 Project Management	Job Cost System	\$1,000
PeachTree Graphics Language	PeachTree Graphics Language Business Graphics System	\$ 600 \$ 475

* Does not include products marketed only by PeachTree Software International Ltd.

MANAGEMENT SCIENCE AMERICA, INC.

- . A service center for dealers was established in 1981 to augment Peachtree's dealer hot line service.
- Under a 1981 contract, Peachtree designed general ledger, accounts receivable, and accounts payable packages for IBM's Personal Computer, which are sold through IBM.
- . Peachtree's PeachPak 4 Accounting Series, introduced in 1982, is a more basic version of the accounting packages marketed by Peachtree for use on the IBM Personal Computer.
- Peachtree also maintains relationships with Hewlett-Packard, Apple, Zenith, Osborne, Lanier, NEC, Digital Equipment, Wang, and Epson.
- Recent Peachtree product acquisitions include the following.
 - . In April 1982 Peachtree acquired, on a license basis, Automation Consultants' Job Cost System. The system, used in Peachtree's PeackPak 10 Product Management product, tracks operating costs for engineering, construction, or business projects.
 - . Peachtree Software International acquired the rights to market COMPACCT, a series of COBOL accounting packages tailored to U.K. accounting requirements, in April 1982. COMPACCT is a product of CSA Micro Systems Ltd. of London and is now marketed as Peachtree Business Management Systems in the U.K.
 - . In 1982 Peachtree acquired the rights to market The Random House Dictionary and Thesaurus (from Dictronics), Black's Law Dictionary, and Stedman's Medical Dictionary. The computerized dictionaries will be available as extra-cost options on the Spelling Proofreader package. The Random House Thesaurus will be available on PeachText.
- Recent Peachtree product introductions include:
 - . A Calendar Management System for PeachPak 9.
 - . The Peachtree Graphics Language (PGL), introduced in September 1982. The product is marketed under an exclusive agreement with PGL coauthors from Computer Graphics Group in Atlanta.
 - PGL can be used on any 8-bit CP/M microcomputer and with most printers and plotters. The product can zoom, pan, scroll, rotate shapes, and generate graphs.
 - Business Graphics System, the first applications package written in PGL, provides a menu-driven color graphics

MANAGEMENT SCIENCE AMERICA, INC.

interface to the PeachCalc electronic spreadsheet and PeachText word processor products.

- Products in the final stages of development include:
 - A fixed asset accounting program designed for capital-intensive businesses. It will have an optional interface to Peachtree's general ledger software.
 - Information Access, a utility package allowing major files in Peachtree accounting packages to be read and manipulated by PeachText and the Mailing List Manager.
- Peachtree withdrew its Property Management system in 1982 in order to present a more integrated line of business accounting products.

INDUSTRY MARKETS

- Approximately 33% of MSA's 1981 revenue was from manufacturing companies, and a large percentage came from banking and finance clients.
- There is also some concentration in the areas of insurance, health care, education, transportation, retail and wholesale distribution, government, and energy-related companies.
- One or more of the company's packages are used by 282 of the Fortune 500 companies.

GEOGRAPHIC MARKETS

- Eighty-two percent of MSA's 1981 revenue was derived from clients across U.S. geographic sectors. Foreign revenue represented 18% or \$13.4 million of 1981 revenue.
 - Approximately 20% of new business in 1981 was derived from international operations. MSA management projects that overseas business will represent about one-third of total revenue in five years.
- Revenue was distributed geographically in 1981 as follows:

United States	82
United Kingdom	7
Canada	4
Western Europe	3
Australia/New Zealand	3
Other International	<u>1</u>
	100%

MANAGEMENT SCIENCE AMERICA, INC.

- MSA maintains four regional U.S. offices in Atlanta, Oak Brook (IL), Fort Lee (NJ), and Santa Monica (CA).
 - District offices are located in Woburn (MA), Worthington (OH), Dallas, Houston, Morrison (CO), St. Paul (MN), Ft. Washington (PA), Burlingame (CA), Bellevue (WA), Alexandria (VA), and Winston-Salem (NC).
- Canadian operations are headquartered in Toronto with offices in St. Laurent (Quebec), Vancouver, and Calgary. Other international offices, headquartered in Maidenhead, Berkshire (U.K.), are in Oslo, Brussels, Singapore, Hong Kong, and North Sydney.
 - Independent agents located in Tokyo and Randburg service Japan and South Africa.
 - During the third quarter of 1982, MSA formed agreements with two new agents to market mainframe software in Germany and Greece.

COMPUTER HARDWARE AND SOFTWARE

- MSA maintains the following equipment at its Atlanta headquarters.
 - 1 IBM 3033, MVS.
 - 1 IBM 370/158, OS/VSI, VM, DOS/VSE.
 - 1 IBM 4341, OS/VSI, VM, DOS/VSE.
 - 1 IBM 3081.
- MSA has purchased CICS, IMS, TAPS, and EDOS software products. The company also has the right to use ADABAS, IDMS, and DATACOM/DC for testing purposes.

SUMMARY

- The company is one of the strongest application software product vendors in existence and has very strong management. The company is large enough to be impacted by economic downturns and by competitive products but has so far been able to maintain revenue and net income growth at exceptional levels.

COMPANY HIGHLIGHT

**THE MONCHIK-WEBER
CORPORATION**
111 John Street
New York, NY 10038
(212) 962-2400

John R. Weber, President
Public Corporation, OTC
Total Employees: 363
Total Revenue: Fiscal Year End
5/31/83: \$21,000,000*
Market Value: \$40 million

THE COMPANY

- The Monchik-Weber Corporation, founded in 1970, provides computer services and products to meet the management information and data processing requirements of the financial industry.
- In November 1981 Monchik-Weber successfully completed a public offering of 901,000 shares of stock at \$11.00 per share. The net proceeds of \$8,017,250 were used to finance leasehold improvements; for facilities expansion; for general corporate purposes, including software product development; and for additions to working capital.
- In November 1982 the company acquired Metro Data Company for \$1.5 million and contingency payments. Metro Data specializes in processing options transactions for traders and market makers.
- In April 1983 Monchik-Weber announced its agreement to acquire Given Systems Inc., a company providing microcomputer-based portfolio management and accounting software to investment counseling firms.
- In the first nine months of fiscal 1983, Monchik-Weber reported revenue of \$15,776,000 and net income of \$290,000 versus \$17,567,000 and \$1,178,000 for the 1982 comparable period. Management indicated that this was due to a lack of sales in the Software and Hardware products area.

*INPUT estimate

THE MONCHIK-WEBER CORPORATION

MONCHIK-WEBER
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM \ FISCAL YEAR	5/82	5/81	5/80	5/79	5/78
Revenue	\$ 22,955	\$ 16,536	\$ 13,565	\$ 10,934	\$ 7,615
. Percent increase from previous year	39%	22%	24%	44%	22%
Income before taxes and extraordinary item	\$ 1,929	\$ 1,615	\$ 1,246	\$ 1,028	\$ 913
. Percent increase from previous year	19%	30%	21%	13%	5%
Net income	\$ 1,709	\$ 892	\$ 673	\$ 532	\$ 492
. Percent increase from previous year	92%	33%	27%	8%	8%
Earnings per share	\$ 0.55	\$ 0.35	\$ 0.26	\$ 0.21	\$ 0.20
. Percent increase from previous year	57%	35%	24%	5%	0%

- In August 1980 Monchik-Weber acquired the business, computer programs, and assets subject to liabilities of Wall St. Concepts, Inc., a supplier of computerized recordkeeping and portfolio monitoring services for financial applications, at a cost of \$497,790. The transaction consisted of notes payable at \$382,000, cash of \$88,000, and acquisition expense of \$27,790.
- Monchik-Weber is organized into seven division and subsidiary operating companies:
 - Monchik-Weber Systems Consulting.
 - Monchik-Weber Financial Systems.
 - Monchik-Weber General Systems.
 - Monchik-Weber Information Services.
 - Monchik-Weber Advanced Technologies.
 - Monchik-Weber Investment Systems.
 - Monchik-Weber Wall St. Concepts, Inc.
- Employees are segmented as follows:

- Marketing and sales	15
- Software services/customer support	169
- Computer operations	51
- General and administrative	<u>67</u>
	302

THE MONCHIK-WEBER CORPORATION

- Monchik-Weber competes in the data processing and information services areas with Bridge Data Company and Bradford National Corporation. In the software and hardware products area, competitors are Automatic Data Processing Inc., Brokerage Transactions Systems Inc., TMI Systems Corporation, and Bradford National Corporation.

KEY PRODUCTS AND SERVICES

- Monchik-Weber's principal activities are developing computer systems for securities firms, investment advisers, and banks; providing real-time, interactive computer services supporting securities trading; and developing standardized applications software.
 - The three principal business areas of Monchik-Weber are systems development and consulting services, data processing and information services, and software and hardware products. Revenues from these areas have been (\$ thousands):

	<u>1982</u>	<u>1981</u>	<u>1980</u>
Systems development and consulting services	\$ 11,890	\$ 8,282	\$ 6,575
Data processing and information services	5,830	4,203	1,861
Software and hardware products	<u>5,235</u>	<u>4,051</u>	<u>5,129</u>
	\$ 22,955	\$ 16,536	\$ 13,565

- Systems development and consulting services include the following:
 - Consulting services range from overall systems design, analysis, and development to operation reviews and audits, systems planning, feasibility studies, user training, and equipment management.
 - Monchik-Weber has traditionally specialized in systems for the securities industry and has developed a level of expertise in securities processing and related applications.
 - Although Monchik-Weber expects to derive most of its revenues from the financial community, its financial analysis and programming experience has proved applicable to other areas such as manufacturing, publishing, and service companies.
 - The majority of Monchik-Weber's systems development and applications work has been for the HP 3000, IBM's System 34 and System 8100, and Data General's ECLIPSE computers.

THE MONCHIK-WEBER CORPORATION

- Application software projects completed during fiscal year 1980 and 1981 include a trading support system for Merrill Lynch & Company, Inc., a hotel front office management system for IBM, and a market oversight surveillance system for the Securities and Exchange Commission.
- Monchik-Weber has designed and installed a distributed data communications system for E.F. Hutton, an airport car rental tracking system for Hertz, and is currently designing a message switching system for Bache Halsey Stuart Shields, Inc.
- Data processing and information services (remote computing services) provided by Monchik-Weber include the following:
 - The Option Monitor Service provides price and quote information, methods for performing analysis and strategic planning, and lists of opportunities for option investments. Approximately 65 clients use option monitor terminals, which are installed at stock exchanges, investment management firms, and the trading, arbitrage, and institutional sales departments of brokerage firms.
 - The Financial Futures Service provides analysis of futures markets, including spreads and straddles, position analysis, and hedge factors. There are about 30 clients using this service.
 - The Pricing Service provides clients with both real-time ticker prices and closing prices for stocks, bonds, and options. There are approximately 15 users of this service, which include service bureaus, time-sharing companies, clearing corporations, news services, and brokerage and investment firms.
 - The Data Sharing Service provides clients with access to real-time pricing data bases that contain information on stocks and options. The service, introduced in fiscal 1981, has five users whose monthly service charge ranges from \$1,500 to \$3,000.
- The software and hardware products business group markets minicomputers manufactured by Hewlett-Packard and Data General, and is licensed for five standard software products.
 - PORTRAIT, introduced in 1981, is a portfolio management system that supports the accounting and reporting activities of investment management firms. It provides access to portfolio information, performance measurement analysis, capabilities for foreign securities and options accounting, customized clients and management information reports, and information on realized and unrealized capital gains and losses. PORTRAIT runs on HP 3000 series and is also available as a data service. Base price for PORTRAIT is \$65,000.

THE MONCHIK-WEBER CORPORATION

- The International Fund Accounting System provides multicurrency portfolio accounting and reporting and operates on an IBM Systems 34. It maintains trade date positions, custodian security balances, and daily income accruals in addition to providing cash forecasts for each client's currency and portfolio pricing and valuations.
- Securities Processing System (SPS) supports a number of back office functions such as cage, stock loan, and accounting operations. It has features which include validation of purchase and sales executions, nontrade bookkeeping items, same-day cage balancing, and current receive/deliver commitment information displays.
- Investment Banking Information System (IBIS) is a back-office system designed to handle major brokerage operational and management functions. The programs, procedures, and reports of IBIS are intended to support users, management personnel, salesmen, and money managers. It operates on IBM 370 and 4300 hardware.
- Fund Accounting System (FUNDAC) is designed to operate on the IBM System 34. FUNDAC is a mutual fund accounting system available in two versions: one designed to handle the accounting procedures for the investment portfolios of off-shore funds, the other for U.S. portfolios of state-side funds.

INDUSTRY MARKETS

- Approximately 85% of Monchik-Weber's revenues are derived from the securities and banking industries, with the remainder coming from manufacturing, insurance, services industry, and government sectors.

GEOGRAPHIC MARKETS

- Monchik-Weber maintains offices in New York, Boston, and Chicago. The company's computer service revenues are derived from the following areas:

New England	10%
Middle Atlantic	75
East North Central	10
South Atlantic	5
	100%

COMPUTER HARDWARE

- The Option Monitor Service and Financial Futures Service are offered on a number of Data General ECLIPSE C/300 and C/330 systems, operating under AOS, RDOS, and RTOS.
- The Data Sharing Service uses a Data General ECLIPSE S/130 operating under AOS, RDOS, and RTOS.

THE MONCHIK-WEBER CORPORATION

- Access to the networks is through AT&T Long Lines. Network access from Europe is also available.

SUMMARY

- The company has a reliable and capable management team, and its financial position appears strong enough to fund the 30% growth that the company has targeted. However, these expectations were crushed by the announcement that for the nine months ended February 1983 the company reported revenues of only \$15.8 million, down from \$17.6 million a year earlier.

COMPANY HIGHLIGHT

NATIONAL DATA CORPORATION
 One National Data Plaza
 Corporate Square
 Atlanta, GA 30329
 (404) 329-8500

L. C. Whitney, President and CEO
 Public Corporation, OTC
 Total Employees: 2,458
 Total Revenue, Fiscal Year End
 5/31/82: \$120,325,000
 Market Value: \$257 million

THE COMPANY

- National Data Corporation (NDC) was incorporated in 1967 in Delaware to provide specialized data processing and facilities management services. NDC provides cash management, credit card, merchandising, health care, information management processing, and professional services. Its facilities management services include all phases of credit card billing, from credit approval through collections.
- In the first nine months of fiscal 1983, NDC reported revenue of \$89,886,000 and net income of \$7,936,000 versus \$90,160,000 and \$8,442,000 for the nine month period of fiscal 1982. The main reason for the flat revenue and 6% profit drop was the loss of the ARCO contract, which would have contributed \$7 million.

NDC
FIVE-YEAR FINANCIAL SUMMARY
 (\$ thousands, except per share data)

	5/82	5/81	5/80	5/79	5/78
Revenue (a)	\$ 120,325	\$ 96,519	\$ 81,050	\$ 68,321	\$ 57,027
• Percent increase from previous year	25%	19%	19%	20%	-
Income before taxes (b)	\$ 18,967	\$ 14,019	\$ 11,281	N/A	N/A
• Percent increase from previous year	35%	24%	-		
Net income (b)	\$ 11,224	\$ 8,140	\$ 6,827	N/A	N/A
• Percent increase from previous year	38%	19%	-		
Earnings per share (b)	\$ 1.00	\$ 0.74	\$ 0.63	\$ 0.50	\$ 0.39
• Percent increase from previous year	35%	17%	26%	28%	-

(a) Financials have been restated to account for the acquisition of Rapidata, Inc. on a pooling-of-interests basis.
 (b) Restated to conform with the Financial Accounting Standards Board Statement #43 relating to the accrual of vacation pay.

NATIONAL DATA CORPORATION

- Approximately \$2 million was spent for research and development in fiscal 1982.
- NDC management expects fiscal 1983 earnings per share of \$1.00 to \$1.10 on revenue of \$126 million. Data Processing Services are expected to grow 10% to 12% to \$115 million, or 91% of revenue. Facilities management will contribute the remaining 9% of revenue, declining from 15% of revenue in fiscal 1982 due to loss of revenue from a discontinued contract with the Atlantic Richfield Company (ARCO).
 - The loss of revenue from ARCO, which is expected to fall from \$12.4 million in fiscal 1982 to approximately \$3 million in fiscal 1983, is responsible for the below-trend growth in revenue and earnings. Long-term growth is anticipated to be 20% to 25%.
- Major NDC business segments include Financial Services and Systems (Cash Management and Credit Card Services), Information Systems (Information Services-Rapidata and Merchandising Data Services), Health Care Data Services, and Facilities Management Services.
- Recent NDC acquisitions include:
 - In July 1981 NDC acquired for \$3.2 million the financial timesharing software, DEC-10 equipment and the associated customer base of the Applied Logic/International Computer Services division of Raytheon Service Company for \$3.2 million. A remote computing firm located in Boston, Applied Logic had estimated revenue of \$3.5 million in 1980 and now operates as part of NDC's Rapidata Division.
 - On December 31, 1981, NDC acquired Rapidata Inc. for stock valued at approximately \$24.3 million. NDC exchanged 1,278,781 of its common shares for the more than 1.5 million shares outstanding of Rapidata at a rate of 0.8 share of NDC for each share of Rapidata.
 - . Rapidata is a remote computing and professional services firm headquartered in Fairfield (NJ). Rapidata specializes in corporate cash management, banking, statistical, and financial applications and data bases. Revenue for Rapidata's fiscal year end, December 1981, was \$23.9 million.
 - . In March 1982 NDC merged its Network Services Division with Rapidata to form the Rapidata Division. The new division and NDC's Merchandising Services operation form the new Information Systems Group.
- NDC subsidiaries include:
 - National Billing Systems, Inc., located in Atlanta, which is responsible for NDC's facilities management contract with ARCO.

NATIONAL DATA CORPORATION

- National Communications & Data Company, Ltd., NDC's Canadian operation located in Don Mills, Ontario.
- NDC International, Ltd., located in London.
- A revenue breakdown by service area follows:

NDC
REVENUE FROM OPERATIONS, BY SERVICE
 (\$ thousands)

	5/82	Percent Increase (Decrease) From Pre- vious Year	5/81	Percent Increase (Decrease) From Pre- vious Year	5/80	Percent Increase (Decrease) From Pre- vious Year
Data Processing Services						
- Cash Management	\$ 29,466	26%	\$ 23,391	42%	\$ 16,448	20%
- Credit Card	\$ 28,961	45%	\$ 19,905	30%	\$ 15,281	22%
- Information Services	\$ 32,555	20%	\$ 27,116	6%	\$ 25,686	11%
- Merchandising	\$ 4,998	6%	\$ 4,718	(8%)	\$ 5,119	61%
- Health Care	\$ 6,258	53%	\$ 4,082	30%	\$ 3,128	165%
- Miscellaneous	\$ <u>430</u>	(70%)	\$ <u>1,455</u>	58%	\$ <u>918</u>	6%
Subtotal	\$ 102,668		\$ 80,667		\$ 66,580	
Facilities Management						
- ARCO	\$ 12,410	9%	\$ 11,349	2%	\$ 11,075	(1%)
- Other	\$ <u>5,247</u>	17%	\$ <u>4,503</u>	33%	\$ <u>3,395</u>	46%
SubTotal	\$ 17,657		\$ 15,852		\$ 14,470	
Total Company Revenue	\$ 120,325		\$ 96,519		\$ 81,050	

- NDC management attributes the 25% increase in fiscal 1982 revenue to increases among the various services:
 - Cash Management and Credit Card Services revenue increases were due to growth in transaction volume and price increases.

NATIONAL DATA CORPORATION

- Information Services revenue increased 20% as a result of the Applied Logic/International Computer Services acquisition, which contributed \$2.4 million in fiscal 1982 revenue and growth in both customer base and usage.
- Merchandising Data Services revenue increased 6% in fiscal 1982. A 21% growth in revenue from telephone answering transactions was offset by the discontinuance of a national quotation service by a stock brokerage customer.
- Health Care Data Services revenue growth of 53% was the result of new customer installations.
- Miscellaneous revenue, principally from the sale of computer equipment and software, decreased 70% due to NDC's decision to discontinue this activity.
- Facilities Management Services revenue increased 11%, primarily from services provided to ARCO. Increased volume from other petroleum companies also contributed to growth.
- In May 1982 NDC had 2,458 employees. The company reduced that number when it discontinued its contract with ARCO. There are currently 2,215 employees, divided as follows:

Marketing/sales	202
Software services/customer support	109
Computer operations and communications	1,454
General and administrative	<u>450</u>
	2,215

- NDC considers its principal competitors to be Automatic Data Processing, Chemical Bank of New York (BankLink), First Data Resources, Three PM, PharmAssist, HealthCom, and credit card associations.

KEY PRODUCTS AND SERVICES

- Approximately 82% of NDC's total fiscal 1982 revenue is derived from its various processing services, 15% from facilities management, 2% from profes-

NATIONAL DATA CORPORATION

sional services, and 1% from turnkey systems. Services for fiscal 1982 are segmented approximately as follows:

	Percent of Revenue	Revenue (\$ thousands)
Cash Management Services	25%	\$ 29,466
Credit Card Services	24	28,961
Information Services	27	32,555
Merchandising Services	4	4,998
Health Care Services	5	6,258
Miscellaneous	-	430
Facilities Management Services	<u>15</u>	<u>17,657</u>
	100%	\$120,325

- Cash Management Services available from NDC consist of bank deposit and balance reporting, money transfer and information reporting, remittance processing, short-term cash planning, and portfolio analysis.
 - NDC's Deposit Reporting Service permits electronic concentration of local bank deposits from an organization's remote locations into central banks for accelerated funds availability. Reports provide daily management information on unit activities and cash flow. The service is used by over 2,500 corporate clients with over 150,000 dispersed locations, concentrating funds into over 160 U.S. and Canadian banks.
 - . Banks have on-line access to the deposit concentration data in Depository Transfer Check or Automated Clearing House debit format.
 - . Deposit reporting is also used to automate the movement of funds from personal bank accounts to money market funds.
 - . In September 1982 NDC received a multiyear, several million dollar contract to provide deposit reporting services to approximately 10,000 U.S. post office branches, allowing the postal service to concentrate over \$100 million of funds daily into 11 regional banks.
 - Bank balance reporting enables customers of participating banks to receive daily bank balance information so that cash management decisions can be made rapidly. Approximately 1,500 banks use this service to report balances for over 4,000 corporations.
 - NDC's Money Transfer System allows the financial staff of a corporation to initiate an instruction through the banking system to transfer funds. Instructions are forwarded by terminals located at the customers' places of business to the sending bank for immediate processing. Thirteen banks currently subscribe to this service.

NATIONAL DATA CORPORATION

- Information reporting provides corporations with accurate daily consolidated business data collected from remote locations, such as information on sales, payroll, disbursements, inventory, and deposits. Approximately 2,500 customers currently use this service. The service is also used by a large Canadian bank to facilitate transfers of funds among its branches.
- There are 43 customers using the remittance and credit slip processing service, which handles cash receipts for retailers and other clients with voluminous processing requirements. NDC deposits payments to a customer-designated account, providing same-day accounts receivable updates and summary reports.
- The Cash Management Exchange^{T.M.}, introduced in 1980, is a cash management service providing daily uniform funds-transfer, multibank reporting, and financial data exchange between banks and their client corporations through NDC's on-line network.
 - The exchange includes existing NDC programs with the addition of Balance History and Detail Transaction Reporting modules.
 - Over 1,500 banks in 44 countries report into the network each business day. Approximately 5,000 institutions access the exchange through its 50 member banks.
 - A multicurrency netting service allows corporate treasurers to net worldwide, intracompany payments. The service collects, reconciles, and consolidates relevant payables and receivables data to determine the optimum transaction settlement.
 - Cash management contracts have recently been negotiated with Pierson Heldring and Pierson Bank in Amsterdam, Dresner Bank in Frankfurt, and the Bank of America.
- Business Credit is a system which facilitates business-to-business payment transactions for all parties to a business transaction, including the buyer, seller, and respective banks, using electronic funds transfer to replace paper invoice and check payment methods. NDC acquired the rights to the system from International Commercial Systems, Inc. in June 1981.
- In January 1982 NDC signed an agreement with Allen M. Cohen & Associates, a New York City firm specializing in bank product and business development, for the joint development of a new group of banking products and services. The new capabilities will allow banks to expand, penetrate, and secure regional markets of middle- and small-sized companies by geographically distributing NDC processing, storage, and access functions.

NATIONAL DATA CORPORATION

- New services offerings include:
 - Credit sales management products which allow the retailer to quickly turn credit sales into usable cash assets. Included are authorizations, lockboxes, sales draft processing, and direct data transmissions to card plans, financial institutions, and corporations.
 - An on-line money market rate reporting system, which prints instruments and corresponding rates for different terms.
 - Foreign Exchange Reporting, which provides on-line information exchange rates for various currencies including spot rate, predicted rates for future dates, and cross-reference of currency codes for comparison.
 - Treasury decision support systems including Cash Forecasting, Cash Ledger, and Target Balance, which assist in the cash management decision-making process.
 - Financial Information Transaction Services (FITS), or Micro Technology, which is a new distributed processing network allowing banks to provide advanced financial services to large corporations and to the middle, retail, and consumer (home computer) markets by linking microcomputers and terminals with NDC's financial processing operations. This new executive information system allows customers to access a variety of data bases and retrieve data in any form, including predefined color graphs.
 - A new interface to the SWIFT (Society for Worldwide International Financial Telecommunication) network, which permits banks to report account statement information in a format that is already in use, thus requiring minimal implementation efforts.
- In October 1982 NDC International completed the first phase of the Available Funds Reporter Service, which is being co-developed with National Westminster Bank. The service provides cash management systems for monitoring and mobilizing available funds to British corporate treasurers and banks.
- NDC provides timesharing through an arrangement with GEISCO in connection with some of its cash management services. The timesharing capability, which is also offered through NDC's own network, allows each customer to store data and obtain reports which meet their specifications.
- Professional services include financial consulting and analysis of customer applications from specification stages to coding, testing, implementing, and maintaining customized software.

NATIONAL DATA CORPORATION

- NDC's Credit Card Services include credit card charge authorization and processing services for both bank and private label card plans.
 - The National Electronic Transaction Service (NETS^{T.M.}), introduced in 1980, is a nationwide electronic authorization service for both credit cards and checks. NETS provides point-of-sale, terminal-based services using AT&T's Transaction II terminal over WATS lines.
 - . The service links U.S. bank and retail merchants' terminals to data bases of bank card and major travel and entertainment card issuers.
 - . NETS was upgraded in fiscal 1982 to include electronic cash register interfaces and voice synthesized audio response.
 - . The credit card charge authorization service is presently being used in the U.S. and Canada by 175 banks that issue MasterCard and Visa cards, and by 19 oil companies, including 11 Canadian oil companies.
 - NDC provides credit card processing services to 52 clients through its data entry service. Consulting services are also available.
 - NDC captures sales draft data from bank, travel and entertainment, and private label cards to speed up funds availability and provide credit sales activity management reports. This process permits banks to serve merchants with geographically dispersed multiple locations.
 - The Total System^{T.M.}, is an on-line bank credit card authorization and billing system jointly offered by NDC and Columbus Bank and Trust Company (GA). Columbus provides the credit card billing and merchant accounting portion of the service, and NDC provides the authorization and data entry components. The system processes all functions for a bank's credit card plans, MasterCard, Visa, premium cards, and debit cards. A total of 67 banks, credit unions, and savings and loan associations currently use the system.
- The Financial Services Institute^{T.M.} is an independent academy established in February 1982 and sponsored by NDC. The Institute provides education and training for credit and cash management personnel from banks, corporations, and government through two schools.
 - The Cash Management Academy, opened in mid-1982, offers introductory, intermediate, and advanced cash management courses.
 - The Credit Services Academy, scheduled to begin in late 1982 or early 1983, will offer courses for corporate and banking credit services professionals.

NATIONAL DATA CORPORATION

- In March 1982 NDC formed the Information Systems Group, consisting of Merchandising Data Services and the Rapidata Division (Rapidata, Interactive Sciences, and Applied Logic).
- NDC's Merchandising Data Services are marketed to advertisers and retailers. A broad range of services is provided 24 hours a day, seven days a week through the Merchandising Data Interchange^{T.M.} systems.
 - Services include:
 - Toll-free telephone ordering, solicitation, and answering services.
 - Computerized catalog purchasing, on-line order editing, and automated upsell.
 - Consumer assistance services and warranty information.
 - Order response, fulfillment, and sales leads.
 - Cash management systems.
 - Inventory, sales, media, and credit card and check authorization reports.
 - Mail order data entry and regionalized delivery.
 - Demographic data base access to assist in advertising planning.
 - Hotel/motel reservations services.
 - Stock and money market quotations.
 - Computerized and customized voice response to consumer inquiries.
 - Dealer Locator Services, a telephone locator system which refers consumers to the closest dealer or merchandiser, was introduced in February 1982.
 - Emergency Product Services, a version of Locator Services, was also introduced in February 1982. The system is used by petroleum companies and equipment manufacturers, by financial institutions to provide clients with locations for emergency cash needs, and by Ford Motor Company to provide customers with automobile repair locations.
 - In June 1982 the CBN Satellite Network cable television service became an NDC telephone response services client. Other cable network clients include Turner Broadcasting and Cable News Network.

NATIONAL DATA CORPORATION

- NDC uses its six communications centers in the U.S. and Canada to process consumer orders and distribute the data to designated shipping locations. Approximately 125 marketing organizations currently use these services.
- NDC's Rapidata Division provides interactive remote computing and data base services and related professional services for management planning, decision-making, control, and auditing. Applications available on the Rapidata network are presented in the exhibit.
 - Financial planning and control applications perform:
 - . Capital budgeting and asset management.
 - . Performance analysis and measurement.
 - . Consolidated financial reporting and analysis.
 - . Financial forecasting and budgeting.
 - . Merger and acquisition analysis.
 - Banking and investment management services provide banks, investment firms, and corporate portfolio managers with accurate financial data and administration and reporting systems for:
 - . Asset liability management.
 - . Portfolio accounting and management.
 - . Branch performance reporting.
 - . Consolidations and multiyear planning.
 - . Account profitability analysis.
 - Market planning and control services provide analysis, reporting, graphic, and modeling capabilities, including:
 - . Sales forecasting and analysis.
 - . Product planning and pricing.
 - . Site selection.
 - . Market simulation.
 - . Media allocation.
 - . Market share analysis.
 - Money management services used by treasurers in medium- and large-size corporations include:
 - . Balance and disbursement reporting.
 - . Float and cash forecasting.
 - . Deposit concentration and lockbox reporting.
 - . Anticipatory drafting.

EXHIBIT

APPLICATIONS AVAILABLE ON RAPIDATA'S NETWORK SERVICE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
<ul style="list-style-type: none"> ● OPERATING ENVIRONMENT <ul style="list-style-type: none"> – DEC 10/70, 10/90s, 2020s, TOPS-10 OS – HONEYWELL 437s, CUSTOM OS ● PROGRAMMING LANGUAGES SUPPORTED <ul style="list-style-type: none"> – ASSEMBLER – BASIC – COBOL – FORTRAN – PL/1 ● DATA MANAGEMENT SOFTWARE <ul style="list-style-type: none"> – DBMS-10 – PROBE – X2C – XPLOR – ACCENT R ● DATA MANAGEMENT AND REPORTING SYSTEMS <ul style="list-style-type: none"> – RAPIDTAB – RIPS ● DATA BASES AVAILABLE <ul style="list-style-type: none"> – BALANCE OF PAYMENTS – BAMACS (BANK OF AMERICA MONEY AND CREDIT STATISTICS) – BONDS (OTC BOND MARKET) – CITIBASE (CITIBANK ECONOMIC DATA BASE) – CITIBASE-WEEKLY (MONEY SUPPLY STATISTICS) – CITIBANK FORECAST DATA BASE – FEDERAL RESERVE BANK OF SAN FRANCISCO (FLOW OF FUNDS) – IFS (INTERNATIONAL FINANCIAL STATISTICS) – MARKET STATISTICS - DEMOGRAPHIC DATA BASE – NBER (NATIONAL BUREAU OF ECONOMIC RESEARCH FINANCIAL DATA BASE) – RAPIDQUOTE II (SECURITIES DATA BASE) – VALUELINE – ZIP CODE DEMOGRAPHIC DATA BASE – TELERATE II (DOMESTIC AND INTERNATIONAL HISTORICAL DATA BASES) – FINSTAT (CORPORATE FINANCIAL STATEMENT) – CONFERENCE BOARD (ECONOMIC TIME SERIES) – DRENNAN-CHR NEW YORK REGIONAL ECONOMIC DATA BASE 	<ul style="list-style-type: none"> ● FINANCIAL APPLICATIONS/TOOLS <ul style="list-style-type: none"> – CAPBUD (CAPITAL BUDGETING) – CPFA (CAPITAL PROJECT FINANCING ANALYSIS) – CPTRAC (CAPITAL TRACKING) – CASH FLOW ANALYSIS – CASH MANAGEMENT SYSTEM – CLIENT GENERAL LEDGER – FISCAL (FINANCIAL MODELING LANGUAGE) – MONITAUR: PORTFOLIO MANAGEMENT SYSTEM – TITAN – ZBB (ZERO-BASED BUDGETING) – FUTURECASH (FINANCIAL MANAGEMENT FOR BANKS) – FDMS (FINANCIAL DATA MANAGEMENT SYSTEM) – SECURITIES TIMING ANALYSIS PROGRAMS ● GRAPHICS <ul style="list-style-type: none"> – GRAPHICS – GRAPHS – PROBE GRAPHICS ● TELEPHONE COMPANY APPLICATIONS <ul style="list-style-type: none"> – ANALIT (ANALYSIS OF LINE INSULATION TESTS) – ESS CUTOVER (CENTRAL OFFICE CUTOVER ANALYSIS) – FADS (FORCE ADMINISTRATION SYSTEM) – TOUR (TOUR SCHEDULING) ● OTHER KEY PRODUCTS <ul style="list-style-type: none"> – BACKGROUND-10 – RAPIDVOICE – RAPIDLINK – SPSS-10 – SXU, DXU – HUMAN RESOURCES INFORMATION SYSTEM – STATE SPACE FORECASTING (TIME SERIES FORECASTING) – RITE (INTERACTIVE TEXT EDITOR) – RID (INTERACTIVE DEBUGGER)

NATIONAL DATA CORPORATION

- Among Rapidata's most successful proprietary software applications are:
 - FISCAL, a financial modeling language for preparation of financial statements, plans, and analyses.
 - PROBE[®], an analysis, forecasting, and reporting language for time series and cross-sectional data.
 - X2C[®], a language which facilitates screening, reporting, and updating of sequential or DBMS-10 data bases.
 - DBMS-10, the DECSYSTEM-10/20 data base management system.
- GRAPHICS, Rapidata's keyword-driven graphics software, is available both on the network and as a software package.
 - GRAPHICS produces point and line plots, spline interpolation and staircase curves, straight line regressions, spike and bar graphs, histograms, pie and ring charts, and pictographs.
 - In May 1982, under an agreement with Interchart, Inc. of New York City, Rapidata introduced an option for producing 35mm slides of any plot, chart, or graph prepared through GRAPHICS. Interchart's Lexidata hardware will be used with GRAPHICS software to produce the slides.
 - GRAPHICS has been available as a software package running on DECSYSTEM-10 and 20 equipment since April 1981. There are currently 250 users of the package. The license fee for an installation is \$25,000.
- Data bases made available on the Rapidata network in 1982 include:
 - The Drennan-CHR New York Regional Economic Data Base, which provides statistical data and industry employment and income forecasts for firms in the New York market.
 - The Citibank Forecast Data Base, an on-line version of Citibank's quarterly United States Economic Forecast, which provides a five-year forecast, by quarters, for over 200 economic indicators.
- In November 1982 Rapidata released FDMS, a financial data management system accessible through any program using FORTRAN or FISCAL. FDMS enables users to create larger financial data bases and allows corporations to link all cost and profit centers together within a single data base.

NATIONAL DATA CORPORATION

- Rapidata has agreements with several banking and financial institutions for marketing two of its systems.
 - FUTURECASH, Rapidata's financial management system for banks, is designed to be sold by larger institutions to their correspondent community banks. Agents marketing FUTURECASH include Pacific Bancorporation, Union Bank of Los Angeles, Pittsburgh National Bank, First National of Louisville, and Victoria Bank of Texas.
 - Agent banks sell Rapidata's Cash Management System under their own name to corporate customers and correspondent banks. Marketing agreements are maintained with Irving Trust Company, American Bank and Trust of Reading (PA), the Pittsburgh National Bank, and Bank of America.
- The Micro Service links microcomputers at customer locations with Rapidata mainframes.
- Professional services are offered in conjunction with many of Rapidata's network applications. Services also include custom systems design, development, and implementation; financial and statistical consulting; and data base design.
- Rapidata provides New York Telephone, a major customer, with dedicated processing services on DEC equipment under a 45-month contract signed in October 1979.
- In March 1982 NDC was awarded a three-year, \$903,291 contract to provide on-line network, data base management, and technical services to 60 offices of the Immigration and Naturalization Service (INS) of the U.S. Department of Justice. Naturalization and Citizenship Casework Support and Deportable Alien Control Systems will be developed by INS.
- NDC's primary health care service is the DataStat® Pharmacy Management System. DataStat enables the pharmacist to maintain patient profiles and to perform prescription processing and screening, drug interaction analysis, private and third-party billing, pricing and price updating, inventory control and drug reordering, accounts receivable, and claims processing. Workload and utilization reports are also produced.
 - The DataStat system provides access to central NDC mainframes through Data General Eclipse S/130 and S/230 minicomputer interfaces and Applied Digital Data Systems remote terminals located at customer sites.
 - The DataStat product line includes Retail, Nursing Home, Health Maintenance Organization, and Hospital systems. Approximately 590 systems have been installed serving over 320 customers in 35 states and

NATIONAL DATA CORPORATION

Canada. The typical system is leased for \$995 per month. The company markets the DataStat system primarily using its own sales personnel.

- NDC also licenses DataStat software as a separate package to pharmacies with standalone systems.
- After incurring net operating losses of \$310,000 in fiscal 1981, the DataStat system contributed to fiscal profits in 1982.
- NDC expects to complete the installation of DataStat Pharmacy systems in 15 major military hospitals in late fiscal 1983. The work was originally performed under a \$7.5 million contract with the U.S. Department of Defense signed in January 1981.
- NDC began offering the DataLink^{T.M.} service in fiscal 1982 for use by large drugstore chains. DataLink is a payment systems interface between DataStat and NDC's credit card authorization and check guarantee network. A cash management interface allows the pharmacy system to use NDC's cash reporting and financial services.
- In June 1982 NDC introduced DataStat II, which combines an on-site standalone microcomputer turnkey system with on-line access to the Health Care Services central mainframes and data bases. DataStat II is designed for use by retail, nursing home, and hospital in-patient and out-patient pharmacies.
 - The system provides patient profiles, prescription processing and screening, pricing and price updating, private and third-party billing, inventory control, drug interaction analysis, and label and receipt printing.
 - The purchase price for the microcomputer, video display terminal, and two matrix printers starts at under \$10,000. Leasing terms start at under \$300 per month. An additional monthly fee is charged for software and maintenance.
- Additional offerings include the availability of a patient's purchase summary to assist in income tax preparation and consulting services for systems development and customization.
- Fifteen percent of NDC's fiscal 1982 revenue stems from facilities management contracts with petroleum companies and airlines.
 - Of the 15% derived from facilities management, ARCO accounted for 10%. NDC has provided full credit card billing services to ARCO since 1971 through its wholly owned subsidiary, National Billing Systems, Inc.
 - In March 1982 NDC announced that ARCO was discontinuing its credit card and related services effective April 15, 1982, with

NATIONAL DATA CORPORATION

phase-out of the operation expected to take six to nine months. Approximately 310 NDC employees provided services under the contract.

- Services provided to ARCO included new account processing, credit and collection, customer billing, remittance processing, accounts receivable accounting, preparation of management information and statistical reports, and other related administrative services.
- NDC is acting as a broker for the sale of the ARCO Credit Card Center in Atlanta under an agreement signed with ARCO in March 1982. Assets of the center include software and documentation, computer hardware, office systems, and equipment.
 - NDC is seeking a replacement facilities management contract from a company with requirements similar to those of ARCO.
 - Under a second agreement with ARCO, NDC was granted a license to the Atlantic Richfield Credit, Collection and Billing System. In April 1982 NDC released its Petroleum Retail Credit, Collection and Billing Software package, based on the ARCO product.
 - The system has eight modules including optical capture, dealer, front-end, on-line, update and billing, reports, management information, and mail order merchandising.
 - Operational on IBM 3031 mainframes, the system is priced at \$600,000 and is licensed in the U.S. and Canada.
- Other NDC facilities management contracts include:
 - An agreement with American Petrofina Company of Texas, under which NDC is managing and operating Petrofina's complete credit card program. In March 1982 NDC announced that it had signed a contract with American Petrofina for additional credit card processing services which are expected to generate \$500,000 in calendar 1982 revenue.
 - A five-year agreement signed in August 1980 with Crown Central Petroleum Corporation of Baltimore to manage and operate Crown Central's retail credit card program. The range of services to be provided by NDC includes credit card processing, credit and collection, and consumer service.

NATIONAL DATA CORPORATION

- . Employing the billing concept developed and used by NDC in providing credit card services to ARCO, NDC also provides retail credit and billing services to Eastern Airlines.
- NDC's Facilities Management Division also offers PETRO-NET^{T.M.}, a credit and check authorization service for the petroleum industry introduced in November 1981. PETRO-NET controls check verification, credit card authorization, and check guarantee financial transactions at the point of sale.
 - PETRO-NET uses NDC's nationwide communications network to link service station managers and issuers of credit cards. The network is accessed using Bell System's Transaction II telephone and a variety of terminals, including point-of-sale electronic cash registers.

INDUSTRY MARKETS

- Primary industry markets are banking and finance, retail, medical, airline, petroleum, and the federal government.

GEOGRAPHIC MARKETS

- Approximately 98% of NDC's fiscal 1982 revenue was derived from the U.S. The remaining 2% of revenue was international, primarily Canadian.
- NDC's U.S. marketing offices are in Ann Arbor; Charleston (SC); Fairfield and Cherry Hill (NJ); Lombard (IL); Los Angeles; New York City, Lawrence, and Melville (NY); Columbus (GA); Dallas and San Antonio (TX); Miami, Ft. Lauderdale, and Orange Park (FL); Southfield (MI); Stamford (CT); Philadelphia; Reno; and Arlington (VA).
- International marketing offices are located in Frankfurt; London; and Don Mills, Ontario. NDC is planning to open an office in the Far East in the near future.

COMPUTER HARDWARE AND SOFTWARE

- NDC operates the following equipment:
 - At its headquarters in Atlanta and in communications centers located in Cherry Hill (NJ), Lombard (IL), Boston, Miami, Reno, and Toronto:
 - . 3 Univac 1100/80s, 1100 OS.
 - . 4 Univac 494s, Omega.
 - . 8 DECSYSTEM-10s, TOPS-10.
 - . 4 DEC PDP-11/40s, IAS.
 - . 15 DEC PDP-11/34s.
 - . 2 Tandems.

NATIONAL DATA CORPORATION

- At the Rapidata Division's Fairfield (NJ) data center:
 - . 6 Honeywell 437s, custom operating system.
 - . 1 DECSYSTEM-10/70, TOPS-10.
 - . 7 DECSYSTEM-10/90s, TOPS 10.
 - . 2 DECSYSTEM-2020s.
 - . 8 DEC PDP-11s (used as front-end processors).
- In addition, NDC installs DEC PDP-11/34s and -11/70s, Data General Eclipse S/130s and S/230s, and Texas Instruments 990 series minicomputers in support of its services.
- NDC's communications network uses leased lines, satellite, Telenet, WATS, foreign exchange, Comshare, and GEISCO. Toll-free or local telephone numbers serving 75 major cities are available.
 - Rapidata's network can be accessed via RAPIDNET (Rapidata's tele-processing network, which is used in conjunction with TYMNET), WATS and FX lines, or TELEX. Access to Rapidata's services is available through more than 250,000 TELEX terminals in over 200 countries.

SUMMARY

- NDC is a conservatively managed company with good potential for development into a major competitor in consumer markets (data banks, consumer services). They are a good acquisition target with good technological skills. The company has shown good control of its affairs in a down market and is now benefitting from the upturn.

COMPANY HIGHLIGHT

QUOTRON SYSTEMS, INC.
5454 Beethoven Blvd.
Los Angeles, CA 90066
(213) 827-4600

Milton E. Mohr, President
Public Corporation, OTC
Total Employees: 858
Total Revenue, Fiscal Year End
12/31/82: \$120,918,000
Computer Services Revenue
\$110,436,000
Market Value: \$867 million

THE COMPANY

- Founded in 1957, Quotron Systems, Inc. provides financial information services to 4,800 customer locations for a monthly fee through a private nationwide data communications network (CARS) to brokerage firms, banks, insurance companies, and security, option, and commodity exchanges. The Quotron 800 system will be gradually replaced by the Motorola 68000-based Quotron 1000 system that is UNIX-based.

QUOTRON SYSTEMS, INC. FIVE-YEAR FINANCIAL SUMMARY (\$ thousands, except per share data)

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	\$ 120,918	\$ 88,120	\$ 63,809	\$ 47,415	\$ 39,379
• Percent increase from previous year	37%	38%	35%	20%	18%
Income before taxes and extraordinary item	\$ 27,628	\$ 20,924	\$ 16,075	\$ 9,854	\$ 6,510
• Percent increase from previous year	32%	30%	63%	51%	152%
Net income	\$ 17,035	\$ 12,485	\$ 8,909	\$ 7,017	\$ 4,470
• Percent increase from previous year	36%	40%	27%	57%	(8%)

JOINT VENTURE

- In November 1980, Quotron, American Information Development, Inc., and The Continental Corporation jointly formed Insurnet, Inc. Insurnet, based in Emeryville (CA), acquired the business of American Information Development, Inc., which provides data processing, word processing, marketing support,

QUOTRON SYSTEMS, INC.

policy and claims processing, customer account storage and retrieval to independent insurance agents, and a communications interface to carriers.

- Continental Corporation provides the joint venture with startup debt financing. Quotron provides execution management, technical and hardware support, communications design, and customer services and support. The venture developed slowly in 1982.
- The Continental Corporation owns all of the common stock of Insurnet. Quotron and American Information Development, Inc. receive convertible preferred stock.
 - Assuming conversion, the common stock ownership of Insurnet will be:

• The Continental Corporation	50.0%
• Quotron Systems, Inc.	37.5
• American Information Development, Inc.	<u>12.5</u>
	100.0%
 - Quotron will have an option to purchase the American Information Development shares at market value.
- The operating results of Quotron will not be affected by Insurnet until after conversion of the preferred stock.

SOURCE OF REVENUE

- Ninety-one percent of Quotron's fiscal year 1982 total revenue is related to computer services. Of the computer services revenue, 93% is interactive processing (data base inquiry), 2% is derived from professional services, and 5% from a joint venture with American Telephone and Telegraph.
- The contribution of computer services revenue to total revenue for the past five years is as follows (\$ thousands):

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Services revenue		\$ 110,436	\$ 79,284	\$ 56,818	\$ 42,783	\$ 35,942
Percent of total revenue		91%	90%	89%	90%	90%

QUOTRON SYSTEMS, INC.

EMPLOYEES

- Quotron's total employees are divided by function as follows:

Marketing	47
Customer support	353
Computer operations	33
Software	88
Engineering and manufacturing	272
General and administrative	<u>65</u>
	858

COMPETITORS

- Quotron's primary competition comes from Bunker Ramo and GTE Telenet Information Services, Inc.

PRODUCTS AND SERVICES

- The Quotron 800 Financial Information System is a programmable computer system that provides instant access to market data, news, and statistical analyses on terminals in customer offices.
 - Started in 1971, the Quotron 800 system uses a national high-speed, multichannel data transmission network that connects the main computer center in New York with regional computer center sites.
 - The Quotron 1000 system announced in 1982 uses multiple Motorola 68000s with a multiple bus structure and is supported by UNIX. Beta test sites were installed in December 1982. The new system will offer office services such as word processing, electronic mail, and computerized filing in addition to personal computer capabilities.
- Information transmitted to clients includes financial data from commodity, option, and stock exchanges in the U.S. and Canada, and from news agencies. The financial information contained in the data base falls into six categories: quotations, dividends and earnings, earnings forecasts, industry groups, market information, and market statistics. Sources of information include:
 - American Stock Exchange.
 - Boston Stock Exchange.
 - Chicago Board of Trade.
 - Chicago Mercantile Exchange.
 - Dow Jones.
 - International Commercial Exchange.
 - Kansas City Grain Exchange.
 - Midwest Stock Exchange.
 - Minneapolis Grain Exchange.
 - NASDAQ.

QUOTRON SYSTEMS, INC.

- National Stock Exchange.
- New York Cocoa Exchange.
- New York Coffee-Sugar Exchange.
- New York Commodity Exchange.
- New York Mercantile Exchange.
- New York Stock Exchange.
- Pacific Commodity Exchange.
- Pacific Stock Exchange.
- Reuters.
- Standard & Poors.
- Winnipeg Grain Exchange.

- The average Quotron 800 customer has 14 terminals installed and spends over \$2,000 per month for services.
 - Merrill Lynch, Pierce, Fenner & Smith Inc. is Quotron's largest customer accounting for approximately 18% of total fiscal year 1982 revenue.
 - Other recent customer acquisitions include Dean Witter Reynolds and Charles Schwab & Co., Inc.
- Billboard Dispatch Services (BIDS) was introduced in 1980 and allows for the customized creation of proprietary data bases. Coexisting with other Quotron FIS services, BIDS provides customers with a means to store proprietary information so that it may be accessed by account executives in branch offices.
- The Quotron VuSet is a joint venture with AT&T and allows small offices, investment counselors, and private investors to have on-line access to the Quotron data base over dedicated telephone circuits.
 - Plantronics terminals are owned and maintained by AT&T but marketed by Quotron.
 - There are approximately 1,300 VuSet installations. An average customer spends about \$260 per month, which does not include an exchange fee.
- Professional service revenue (which contributes 2% to computer services revenue) is primarily generated by the creation of customized data base management and communications systems associated with Quotron's standard products.

QUOTRON SYSTEMS, INC.

INDUSTRY MARKETS

- Brokerage houses are the major source of Quotron's computer services revenue, as reflected below.

Banking and finance		95%
Commercial banks	5%	
Brokerage	85	
Other	5	
Insurance		<u>5</u>
		100%

GEOGRAPHIC MARKETS

- Computer services revenue comes primarily from the eastern U.S. The company does have installations of its system in London and Hong Kong, but foreign operations contributed an insignificant amount to computer service revenue.
 - In April 1981 Quotron announced a joint venture with Associated Press and Dow Jones & Company for the international marketing of its financial information service. The service will be marketed through AP-Dow Jones outside North America, Hawaii, and Puerto Rico. AP-Dow Jones will be responsible for maintenance and technical support. Quotron expects significant growth in this market.

COMPUTER HARDWARE AND SOFTWARE

- Quotron designs and builds the Quotron 801 computer that is used in the Quotron 800 system. There is installed in each customer's office a Q801 computer running under a customized operating system and assembly language.
 - In 1981 the company introduced the Satellite Office Terminal, which can be installed at a location remote from the host Quotron 800 and which receives information over a telephone line. Full Quotron 800 service is available from this terminal.
- Quotron 801 computers are installed at the company's central computer center in New York. Each of the regional centers has a Quotron 800 system as well. Regional centers are in Philadelphia, Chicago, Miami, Dallas, Los Angeles, and San Francisco.

SUMMARY

- Quotron has established a leading position in the stock and financial instrument quotation service business. Competition is mainly from Telerate, GTE, and Reuters and will increase. The company has mature management and established products with a new series of applications (office services) ready for introduction. The market value is very high however.

COMPANY HIGHLIGHT

REUTERS NORTH AMERICA
1700 Broadway
New York, NY 10019
(212) 582-4030

Glen Renfrew, Managing Director
Desmond Maberly, Chief Editor
North America
Division of Reuters Ltd.
Total Employees: 300
Total Revenue, Fiscal Year End
12/31/82: \$40,000,000*
Total Computer Services Revenue:
\$26.2 million*

THE COMPANY

- Reuters North America (RNA) performs all news, wire, quotation, and dealer services in North America for the parent Reuters Ltd. of London. Begun in 1967 upon termination of news-gathering arrangements with Dow Jones and Associated Press, RNA provides information by printer/ticker and through interactive data bases.

SOURCE OF REVENUE

Processing Services (data base)	65%
Printer/Ticker Services	<u>35%</u>
	100%

COMPETITORS

- Commodities and securities quotations: Telerate, Bunker Ramo, GTE Information Systems, and Quotron Systems.
- News cables: Dow Jones, Associated Press, and Commodity News.

PRODUCTS AND SERVICES

- RNA maintains data bases of international market, news, and contributed pricing information in the areas of foreign exchange, money market funds, commodities, securities, and mortgages.
 - Printer or ticker services provide continuous reporting of financial and news information. Offered are:
 - . Reuter Canadian Financial Report.
 - . Reuter Commodity Report.
 - . Reuter Financial Report.
 - . Reuter Grain and Livestock Report.

*INPUT estimate

- . Reuter Metals Report.
- . Reuter Money Report.
- . Reuter Mixed Commodity Report.
- . Reuter News Report.
- Interactive inquiry/response services from remote terminals include:
 - . Reuter Monitor Money Rates Service.
 - . Reuter Monitor U.S. Government Securities Service.
 - . Reuter Monitor Coins and Precious Metals Service.
 - . Reuter Monitor Non-Ferrous Metals Service.
 - . Reuter Monitor Commodity Service.
 - Grains and oilseeds.
 - Coffee, cocoa, and sugar.
 - Livestock.
 - . Reuter Monitor Securities Service.
- Other services include a news update for cable TV companies (Reuter News-View) and a communications service for electronic interbank trading (Reuter Money Dealing Service).
- The Reuter Monitor Service was introduced in 1973 with a foreign exchange module. Additional services including interbank money rates, equities, bonds, metals, and grains were subsequently added. Information available for inquiry is shown in the exhibit. There are approximately 1,500 users of the service in the U.S.
 - The original foreign exchange and money market modules continue to be the most heavily used. Called the Reuter Monitor Money Rate Service (RMMR), this information is used by most international banks, corporations, government agencies, and central banks.
 - RMMR carries quotations on 50 currencies, 13 Eurocurrencies, 18 domestic money markets, gold and silver bullion, and U.S. government securities.
 - Bid and offer prices for these currencies are contributed via the purchase of information "pages" by commercial banks, central banks, and government agencies. Contributors and large corporations use this information in buying and selling currency and other quoted commodities.
 - The news option accesses news stories impacting money rates.
 - The money graph option accesses summary graphs showing information on trade and balance of payments, consumer prices, money supply, reserve and discount rates, interest rates, and weekly monetary statistics.

EXHIBIT

REUTER QUOTATION AND NEWS SERVICES

DATA BASES

OPERATING ENVIRONMENT

- DEC PDP-11/70

NEWS SERVICES

- GRAINS AND OILSEEDS
 - WHEAT – SOYBEAN
 - CORN – SOYBEAN OIL
- LIVESTOCK
 - CATTLE – PORK BELLY
 - HOGS – FEEDER CATTLE
- SOFT COMMODITIES
 - SUGAR – COCOA
 - COFFEE – COTTON
- ENERGY
 - HEATING OIL – GAS OIL
- BUSINESS/MARKET
 - NYSE – NY BOND
 - AMEX – WALL STREET
 - COMMODITY EXCHANGES
- METALS
 - SILVER – LEAD
 - GOLD – ZINC
 - COPPER – TIN
 - PLATINUM – NICKEL/ALUMINUM
- MONEY
 - NY MONEY MARKET
 - CANADIAN BANKS
 - INTEREST RATES
 - FOREIGN EXCHANGE
- REUTER NEWS-VIEW
 - GENERAL – FEATURE
 - FINANCIAL
- MONEY MARKET STATISTICS
 - NY MONEY RATES
 - U.S. COMMERCIAL PAPER
 - BANK PRIME RATES
 - INTERNATIONAL BULLION PRICES
 - CURRENCY FIXINGS
 - EUROBOND INDICES
 - MONEY SUPPLY

DATA BASES

QUOTATION SERVICES

- INTERNATIONAL MONEY FOREIGN EXCHANGE RATES*
- NORTH AMERICAN FOREIGN EXCHANGE RATES*
- ARBITRAGE MARKETS
 - COCOA – SILVER
 - COPPER – SUGAR
 - COFFEE
- U.S. GOVERNMENT SECURITIES
 - NOTES/BONDS – AGENCIES
 - FEDERAL FUNDS
- MORTGAGE INDEX*
- LONDON METALS
 - COPPER – LEAD
 - TIN – ZINC
 - SILVER – ALUMINUM
- LONDON/PARIS SOFT COMMODITIES
 - COCOA – COFFEE
 - SUGAR – SOYBEANS
 - RUBBER
- COINS/PRECIOUS METALS NORTH AMERICA AND INTERNATIONAL*
- NON-FERROUS METALS
- GRAIN AND OILSEEDS
 - WHEAT – OATS
 - CORN – SOYBEAN
 - BARLEY – FLAX
 - POTATOES
- LIVESTOCK
 - CATTLE – HOGS
 - PORK – EGGS
- SOFT COMMODITIES NEW YORK
- WOOD MARKET
- COTTON AND RICE
- NORTH AMERICAN METALS
 - SILVER – PLATINUM
 - GOLD – PALADIUM
- SECURITIES AND OPTIONS
 - NYSE – CBOE
 - AMEX – OVER-THE-COUNTER
- MOCATTA COMMODITY OPTIONS*
 - COINS – GOLD
 - COPPER – SILVER
 - KRUGERRAND – MAPLE LEAF

* CONTRIBUTED INFORMATION

- RNA added interactive access to its commodities and securities data bases on the Reuter Monitor in the Manhattan area in 1976. Services were broadened to other U.S. cities in 1978. Services available include the following:
 - The Reuter Monitor Commodity Services provide market reports, quotations, and news on grains and oilseeds, livestock, coffee, cocoa, and sugar. Quotes from the major domestic and international commodity exchanges are included.
 - The Reuter Monitor Securities Service provides stock quotations from all major stock exchanges in the U.S. and Europe. Options and over-the-counter quotations are included.
- In February 1981 RNA began offering the Reuter Money Dealing Service to large banks. The Dealing Service, used with the Reuter Monitor Money Rates Service, allows purchasers of currencies or money market funds to communicate directly with the selling parties and arrange transactions. RNA provides the communications facility only. There are currently 200 member banks worldwide.

INDUSTRY MARKETS

- RNA clients are primarily from the financial community. Large corporations, commodity brokers, and government agencies are also clients.

GEOGRAPHIC MARKETS

- RNA services are most heavily used in the large eastern and western banking centers. Commodity and security quotation services are offered primarily in the New York area.
- RNA maintains offices in Chicago, Dallas, Ft. Lauderdale, Kansas City, New York, Los Angeles, San Francisco, Montreal, Toronto, and Vancouver.

COMPUTER HARDWARE

- RNA operates its main data center in New York, from which international information is sent via satellite from data centers in London, Amsterdam, Frankfurt, Paris, Zurich, and Hong Kong.
- RNA operates DEC PDP-11/70 computers in its data centers and major network nodes.
- The Reuter Monitor is manufactured by IDR Inc., a wholly owned subsidiary. The Monitor can access both Reuters' and proprietary data bases.
 - The terminal operates with a one-way coaxial cable. Data in packets of 32 characters is transmitted continuously through the cable. When the desired information is sent, the terminal picks it up and displays it.

- The IDR system has been installed in New York City since 1976 on the Manhattan Cable Television Network and a special cable provided by the New York Telephone Company. Bankers, brokers, and corporations in Manhattan use the cables with the Reuter Monitor Service.
- IDR is developing a mass-market terminal for use by all cable network subscribers to allow access to data base information.
- Monitor uses outside New York are serviced by standard two-way telephone lines.

SUMMARY

- Reuters has been a minor competitor in the U.S. stock quotation service market and a stronger one in the news data base service market. The strength of the parent is in Europe and the Far East. Management strength is unknown.

COMPANY HIGHLIGHT

ROSS SYSTEMS, INC.
1900 Embarcadero
Suite 208
Palo Alto, CA 94303
(415) 856-1100

Kenneth Ross, President
Private Corporation
Total Employees: 85
Total Revenue, Fiscal Year End
6/30/82: \$7,000,000*

THE COMPANY

- Ross Systems was founded in 1972 to provide management consulting. In 1975 the company expanded its business and began offering timesharing services and software products. In November 1981 the company obtained \$1 million in venture capital from Welsh, Carson, Anderson and Stowe, adding two directors (Larry Mohr of Hambrecht and Quist and Bruce Anderson of the venture capital group).

ROSS SYSTEMS, INC. FOUR-YEAR FINANCIAL SUMMARY (\$ thousands)

ITEM \ FISCAL YEAR	6/82	6/81	6/80	6/79
Total revenue	\$7,000	\$4,000	\$2,500	\$1,800

- Ross Systems sees its business growing at 70% per annum annually.
- Approximately 12% of revenue is spent annually on research and development.
- The \$1 million in new financing will be used for new product development, to improve computer facilities (to provide more timesharing services), and for general working capital.

SOURCE OF REVENUE

Processing services	70%
Professional services	16
Software products	12
Hardware sales	2
	100%

*INPUT estimate

ROSS SYSTEMS, INC.

EMPLOYEES

- As of April 1983, Ross Systems had 85 employees, segmented as follows:

Sales/marketing	15
Consulting/support services	30
Product development	15
Computer operations	10
General/administrative	<u>15</u>
	85

- All of Ross Systems employees are shareholders in the company.

KEY PRODUCTS AND SERVICES

- Ross Systems provides financial decision support for management in manufacturing, business services, and banking through packaged software systems, timesharing, and consulting.
 - Users typically are controllers, financial analysts, marketing managers, and other executives involved in planning.
- Ross Systems currently offers two proprietary DEC-compatible software packages:
 - INTAC (Interactive Data Base Management) is a data management and retrieval system with over 25 installations. The system is priced at \$20,000 and is also available through timesharing.
 - MAPS (Management Aid for Planning Strategies) is a financial modeling and reporting language.
 - . A major upgrade of MAPS was announced November 19, 1981, offering ease of use for the nonprogrammer, extensive screen formatting, prompts, "help" messages, and new financial functions.
 - . Available to DEC RSTS/E and VMS users, MAPS is priced at \$20,000. The price includes a business graphics software package, customized line editor, user guides, 16 hours of consulting/education, and the first year's maintenance.
 - . There are currently 45 installations.
 - . MAPS is also available via timesharing for approximately 200 operating departments.
- All of Ross Systems' processing is done via timesharing.

ROSS SYSTEMS, INC.

- There are over 500 active users from 125 client companies.
- Applications available are shown in the exhibit.
- Ross Systems' management consulting focuses on the analysis, design, and implementation of financial planning and control systems and accounting subsystems. Projects include:
 - Designing a management reporting and decision support system for the Mercantile Texas Corporation, tying together 19 unit banks while maintaining distinct financial subsystems.
 - Codeveloping a branch profitability system and an international performance reporting system with Crocker National Bank.
 - Developing a long-range financial planning, investment portfolio management system and a base-line accounting system for CETUS Corporation, a biotechnology company.

INDUSTRY MARKETS

Discrete manufacturing	27%
Banking and finance	25
Services	18
Process manufacturing	15
Other	<u>15</u>
	100%

GEOGRAPHIC MARKETS

United States	90%
Europe, New Zealand, Mexico	<u>10</u>
	100%

- Branch offices are located in Dallas, Los Angeles, New York, and San Francisco.

COMPUTER HARDWARE

- Access to the Palo Alto data center is through an internal leased line network or through Tymnet, Telenet, or Uninet.
 - 3 DEC PDP 11/70s, RSTS/E.
 - 4 DEC VAX 11/780s, VMS.

EXHIBIT

NETWORK PROFILE

APPLICATION AREA/PRODUCT NAME
<ul style="list-style-type: none">● Operating Environment<ul style="list-style-type: none">– DEC PDP-11/70, RSTS/E– DEC VAX 11/780, VMS● Programming Languages<ul style="list-style-type: none">– COBOL– FORTRAN– PASCAL– BASIC PLUS– BASIC PLUS II● Data Management Software<ul style="list-style-type: none">– INTAC● Accounting/Financial<ul style="list-style-type: none">– General Ledger– Accounts Receivable– Accounts Payable– Fixed Assets● Planning and Statistical<ul style="list-style-type: none">– MAPS– BMDP● Text Processing<ul style="list-style-type: none">– DEWORD● Graphics<ul style="list-style-type: none">– Four-color, Time Series Business Graphics

SUMMARY

- The company is an aggressive entrepreneur with good technological skills. It has no obvious product strength other than the people themselves. However, Ross will develop rapidly as a computer-assisted management consultancy. Management is autocratic and will need to be broadened in the near future to sustain growth.

COMPANY HIGHLIGHT

SAS INSTITUTE INC.
Box 8000, SAS Circle
Cary, NC 27511
(919) 467-8000

James H. Goodnight, President
Private Corporation
Total Employees: 212
Total Revenue, Fiscal Year End
11/30/82: \$16,000,000*

THE COMPANY

- SAS Institute Inc. was incorporated in 1976 to further develop, support, and promote SAS (Statistical Analysis System), a package that originated at North Carolina State University. The Institute now markets an integrated line of software products based on SAS. Approximately 7,500 products are installed at 3,500 locations worldwide.
- Fiscal 1982 revenue is estimated at \$16 million, a 60% increase over 1981 revenue of approximately \$10 million.
 - A 64% growth in revenue to approximately \$26 million is projected for fiscal 1983.
 - The company has been profitable since its formation in 1976.
- SAS Institute's subsidiaries include:
 - SAS Software Limited, located in Weybridge, Surrey (U.K.).
 - SAS Institute GmbH, in Heidelberg, West Germany.
 - SAS Institute (NZ) Ltd., in Wellington, New Zealand.
 - SAS Software Pty. Ltd., in Sydney, Australia.
 - A subsidiary in France, which is currently in formation.
- SAS Institute had 212 employees in November 1982. There are currently 227 employees, segmented as follows:

Marketing/sales	48
Software services/ customer support	67
Computer operations	67
General and administrative	<u>45</u>
	227

*INPUT estimate

- SAS Institute software packages compete with Integrated Software Systems Corporation's (ISSCO) DISSPLA and TELL-A-GRAF graphics products, Information Builder's FOCUS and Pansophic Systems' EASYTRIEVE data base management systems, and SPSS Inc.'s SPSS statistical package.

KEY PRODUCTS AND SERVICES

- SAS Institute derived 100% of its fiscal 1982 revenue from software products and related services. Packaged software accounted for 82% and consulting and education services 18% of revenue.
- The SAS System is an integrated series of software packages based on SAS (Statistical Analysis System). The products run on IBM 370, 30XX, 43XX, and compatible mainframes under OS, VM/CMS, DOS/VSE, and SSX. Not all products run on all machines or operating systems.
 - Batch and interactive versions are available for all products except SAS/FSP, which is interactive.
 - Test versions running on the DEC VAX-11/7XX Series under VMS, Data General ECLIPSE MV Series under AOS/VS, and Prime 50 Series under PRIMOS will soon be available.
 - SAS products are available on most major remote computing networks, including Boeing Computer Services, GEISCO, Informatics, Martin Marietta Data Systems, and MCAUTO.
 - The Institute is currently licensing approximately 250 products per month.
- Software products available for license in the SAS System are outlined in the exhibit and include:
 - The SAS programming language, which provides programmers and novice users with a comprehensive, easy-to-use system composed of over 75 procedures for data management and retrieval, statistical analysis, and reporting. Uses include decision support, market research, computer performance evaluation, and capacity planning. SAS is required as the base system for all other SAS products. Features include:
 - . Data management and retrieval tools to add, delete, and change data. Procedures include subsetting, concatenating, sorting, merging, interleaving, and updating.
 - . A statistical analysis library of almost 50 procedures, ranging from simple descriptive statistics to complex multivariate techniques. Included are linear and multiple regression analysis, clustering, analysis of variance and covariance, linear models, common factor and component analyses and rotations, and computation of linear or quadratic discriminant functions.

EXHIBIT

SAS INSTITUTE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	LICENSE FEE		YEAR INTRODUCED	NUMBER INSTALLED*			
		FIRST YEAR	RENEWAL YEAR		OS	VM/CMS	DOS/VSE	TOTAL
SAS (Statistical Analysis System)	Programming language, statistical analysis, data management, and report writing.	\$7,500	\$2,800	1976	2,409	714	131	3,254
SAS/GRAPH	Color graphics package.	\$5,000	\$2,000	1980	1,161	434	N/A	1,595
SAS/ETS (Econometrics and Time Series Library)	Forecasting, planning, and financial modeling tool.	\$3,000	\$1,500	1980	853	282	32	1,167
SAS/FSP (Full-Screen Product)	Full-screen formatting product for interactive use with IBM 3270 or compatible terminals.	\$3,600	\$1,800	1982	523	224	N/A	747
SAS/IMS-DL/1	SAS interface to IBM DB and DB/DC systems using DL/1.	\$4,000	\$3,000	1982	157	1	N/A	158
SAS/OR (Operations Research)	Project management tool.	\$3,000	\$1,500	1983	NEW			
SAS/REPLAY-CICS	Data base manager allowing IBM CICS users to manipulate SAS/GRAPH displays.	NEW		1983	NEW			
				Total	5,103	1,655	163	6,921

* As of February 1983

- Report writing with features for customization and flexible formatting.
- Line printer graphics capabilities for producing horizontal and vertical bar charts; block, pie, and star charts; point and contour plots with overlay and overprint options; hierarchically organized tables of descriptive statistics; and calendar format tables.
- SAS/GRAFH, a color graphics package that can be used to produce charts, plots, and maps. The package is used in business and research for presentation and information graphics applications.
 - Capabilities include:
 - Basic, contour, and three-dimensional plots.
 - Bar, pie, star, and block charts.
 - Projection of statistical data to choropleth, surface, prism, and block maps.
 - Production of slides and posters.
 - Replaying stored results for management presentations.
 - SAS/GRAFH supports ADI, Calcomp, Chromatics, Colorgraphics, Dicimedia, Hewlett-Packard, Houston Instruments, IBM, IDT, ISC, Ramtek, Servogor, Tektronix, Versatec, Xerox, and Zeta equipment with device-intelligent software.
- SAS/ETS (Econometrics and Time Series Library), which provides forecasting, planning, and financial reporting tools, extending the modeling and simulation capabilities in SAS. The system is used for applications including econometric modeling, cash-flow planning, and sales forecasting or as a decision support tool for financial and marketing analysis.
 - More than 15 procedures for time series forecasting, regression techniques, and simultaneous equation model estimation and simulation are provided.
 - SAS/ETS can model linear and nonlinear systems and produce row-and-column financial reports and loan amortization tables.
 - The system also contains an adaptation of the Bureau of the Census X-II Seasonal Adjustment program for monthly, quarterly, or seasonal adjustment.
- SAS/FSP (Full-Screen Product), introduced in February 1982, a menu-driven, full-screen product for interactive use with IBM 3270 or com-

patible terminals. The system handles data entry and retrieval tasks as well as letter, mail list management, sales tracking, prospect file, and report writing needs.

- SAS/FSP can add, edit, query, or delete data from an SAS data set. It can also define initial, maximum, and minimum values; required, capitalized, and protected fields; and colors.
- Terminal screens can be defined to replicate order entry forms, purchase invoices, and consumer questionnaires.
- The system can catalog, store, edit, and send letters.
- A spreadsheet financial modeling feature introduced in 1983 conducts "what-if" analyses for budget planning and financial analysis.

- SAS/IMS-DL/I, an interface between the SAS system and IBM DB and DB/DC systems that use DL/I as the data descriptive and data manipulation language. SAS/IMS-DL/I runs on IBM mainframes under OS batch, TSO, or DOS/VSE.

- The package is easily installed with little or no modification, provides quick access to DL/I data bases, and integrates with SAS for use of data management, analysis, and reporting tools with the DL/I data base.
- SAS/IMS-DL/I supports both sequential and random access with full updating capabilities and can be used by data base administrators and programmers for such tasks as:
 - Statistical analysis, reporting, and formatting of information extracted from data bases.
 - Loading data bases from disk, tape, or SAS data sets.
 - Reorganization of DL/I data bases.
 - Simulating or debugging system call logic.

- SAS/OR (Operations Research), announced in January 1983 and scheduled for release in July, a project management tool for business planning and scheduling. The system uses linear programming and critical path method procedures to schedule manpower, capital, equipment, and raw materials to ensure productivity.

- Especially useful in large-scale construction and research and development projects, SAS/OR handles general assignment problems, determines minimum and maximum cost flow through a network, and determines the quantity of goods to be shipped from supply to demand points.

SAS INSTITUTE INC.

- In February 1983, the Institute announced SAS/REPLAY-CICS, a simple data base manager designed to enable IBM CICS users to store, manage, manipulate, retrieve, and replay SAS/GRAFH displays. The package is scheduled for availability to IBM OS users during the second quarter of 1983 and to DOS/VSE installations during the third quarter.
- Portable SAS, a version of SAS designed to run in non-IBM environments, is currently under development at the Institute. The company has signed a joint marketing agreement with Digital Equipment Corporation under which the Institute will provide all software support.
 - The Portable SAS system will operate on the DEC VAX-11/7XX Series under VMS, Data General ECLIPSE MV Series under AOS/VS, and Prime Computer 50 Series under PRIMOS.
 - The first release will include SAS, SAS/GRAFH, and SAS/FSP, with SAS/ETS and SAS/OR to follow. Each product is priced separately.
 - Fees for a first-year license of SAS will range from \$5,000 to \$7,500 depending on equipment used. Yearly renewals are priced at \$2,800.
 - Pricing for other products will be approximately the same as that shown in the exhibit.
- The company provides a full range of public, in-house, and videotape training courses either at the Institute or at various locations throughout the U.S. and Canada.

INDUSTRY MARKETS

- SAS Institute's fiscal 1982 revenue was derived from clients in all industry sectors, including many Fortune 100 companies.

GEOGRAPHIC MARKETS

- Eighty-nine percent of fiscal 1982 revenue was derived from across the U.S. Eleven percent was from international sources, primarily Canada and Europe.
- SAS subsidiaries are located in England, West Germany, New Zealand, and Australia. A new subsidiary will be located in France.
- Licensed agents are located in Italy, Israel, Japan, Singapore, and South Africa.

COMPUTER HARDWARE AND SOFTWARE

- The following equipment is installed at the Institute's Cary headquarters:

- | IBM 4300, VM/CMS, DOS/VSE.
- | IBM 370/158, OS.
- | IBM 3083 (scheduled for installation in May 1983).
- | DEC VAX-11/780, VMS.
- | Data General ECLIPSE MV/8000, AOS/VS.
- | Prime 50, PRIMOS.

SUMMARY

- SAS is an embryo of a large international software products company. The installed base of products has passed the critical mass stage and is almost self-sustaining in its ability to generate add-on and service revenue each year. Management is sound and the company is not vulnerable to sudden changes in technology. It is influenced by economic downturns, however.

COMPANY HIGHLIGHT

SEI CORPORATION
680 E. Swedesford Road
Wayne, PA 19087
(215) 687-1700

Alfred P. West, Jr., President
Public Corporation, OTC
Total Employees: 423
Total Revenue, Fiscal Year End
12/31/82: \$39,737,000
Market Value: \$143 million

THE COMPANY

- SEI Corporation, founded in 1971, offers a complete interactive personal trust information system on a remote computing basis and a minicomputer-based turnkey trust accounting system. It is the leading computer services vendor of trust automation systems.
- In March 1981 SEI made a public offering of 685,000 shares of common stock at \$17.00 per share. Prior to this offering SEI was privately held. Proceeds were used to repay long-term debt, to restructure and enhance the balance sheet, and to invest in money market instruments.
- In December 1982 SEI acquired all of the outstanding stock of TMI Systems Corporation for cash value of nearly \$13 million.

SEI CORPORATION

SEI CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Revenue		\$ 39,737	\$ 32,667	\$ 23,060	\$ 18,208	\$ 14,377
• Percent increase from previous year		22%	42%	27%	27%	7%
Income before taxes and extraordinary item		\$ 6,162	\$ 4,617	\$ 2,878	\$ 2,006	\$ 1,201
• Percent increase from previous year		33%	60%	43%	68%	11%
Net income		\$ 3,728	\$ 2,545	\$ 1,546	\$ 1,103	\$ 851
• Percent increase from previous year		46%	65%	40%	29%	9%
Earnings per share (a)		\$ 0.72	\$ 0.53	\$ 0.42	\$ 0.31	\$ 0.21
• Percent increase (decrease) from previous year		(36%)	26%	35%	29%	

(a) Adjusted for 2.33-for-1 stock split in February 1981 and for 2-for-1 stock split on January 18, 1983.

- The company estimates that during 1982 it expended approximately \$4.7 million (12% of revenue) to modify, design, and develop existing or new services, as compared to \$3.8 million (11.5% of revenue) in 1981.
- The company's principal competitors include Bradford National Corporation, National Computer Systems, Inc., NMF Incorporated (a subsidiary of Sun Information Services), and Key Financial Systems, Inc.
- As of December 31, 1981, the company had 423 full-time employees. Currently, SEI has 459 people, functionally divided as follows:

Marketing	36
Customer administration	64
Development	72
Product planning	8
Operational support	128
Installations	49
Training	10
Administrative	<u>92</u>
	459

KEY PRODUCTS AND SERVICES

- Ninety-five percent of SEI's 1982 revenue was derived from processing services and 5% from turnkey system sales.
- SEI defines its target market as the 1,500 U.S. trust departments managing between \$10 million and \$7 billion in assets. The company's 400 clients constitute 27% of the target market.
 - The company provides its services under contracts generally having terms of two to five years, with no more than 25% of the company's customer contracts expiring in any one year.
- During 1982 nearly 30 SEI client banks joined the company to develop a computerized system linking checking accounts, money market funds, brokerage, debit card, loan and other financial services. The product is called Relationship Banking System.
- Also during 1982 SEI launched Trust-Funds Liquid Asset Trust, an institutional money fund for SEI clients. The first day of operation the fund received \$180 million. By year end, 81 banks had invested \$1.3 billion.
 - The following presents SEI's market share of trust institutions (as of December 31, 1982) for its TRUST-AID system, as estimated by INPUT.

<u>Trust Institutions</u>	<u>Target Number</u>	<u>SEI Clients</u>	<u>Percent of Target</u>
Large (\$.5 - \$7 billion assets)	138	42	30%
Medium (\$100 - \$500 million)	326	98	30%
Small (\$10 - \$100 million)	<u>1,069</u>	<u>270</u>	<u>25%</u>
Total	1,533	400	26%

- SEI's average revenue based on trust department size is as follows:

	<u>Average Annual Client Revenue</u>	<u>Percent of Total Revenue</u>
Large	\$ 400,000	45%
Medium	\$ 115,000	33
Small	\$ 45,000	<u>22</u>
		100%

- SEI's primary service is the TRUST-AID system, an on-line, real-time accounting and management system. TRUST-AID software is available on a remote computing basis and on SEI-installed in-house systems.
- The TRUST-AID system provides the following features:
 - Accounting and Administrative Control.
 - . Generates, for each trust department account, a customized statement showing the asset position of the account and its transactions for the statement period.
 - . Automates the investment of a trust account's cash balance in various short-term instruments, and schedules for processing and review disbursement checks, income receipts, customer statements, investment reviews, and other significant items for individual trust accounts.
 - . Calculates and accumulates gains and losses, interest, dividends, and other income for each account.
 - . Provides trust department management with statements of condition, various reports for Federal and state agencies, and a variety of standard and specialized reports.
 - . Assists in fee processing by providing the ability to establish fee schedules for an account, to calculate fees, to report fees not collected, and to summarize fee income for the department.
 - Security and Income Processing.
 - . Allows for accounting of the status of a security trade from the time of execution through final settlement, reconciliation of security positions with the department's vault, a security depository or a security custodian.
 - . Values securities using an automated pricing service and notifies trust department personnel of prospective corporate changes affecting securities held by trust accounts.
 - . Automates the crediting of dividends, interest, and other income to the appropriate account.
 - . Provides processing and reporting for special assets such as real property, mortgages, and mineral interests.
 - Investment Management.
 - . Provides on-line portfolio review, consolidates multiple portfolios for reporting purposes, and classifies assets into various categories.

- Reports time- and dollar-weighted rates of returns, portfolio composition, and account growth.
- When a bank becomes an SEI client, its trust operations must be converted from a manual setup or some other computer system to the SEI TRUST-AID system. The process takes 90 to 120 days and includes the transfer of the existing data base to the TRUST-AID system as well as the training of the customer's staff.
- SEI clients can use TRUST-AID software on a remote computing basis, with printing provided either at SEI's data center or by a high-speed printer installed at the client site, or as an in-house system.
 - Approximately 95% of SEI's clients ranging from small to large banks, access the TRUST-AID system on a remote computing basis.
 - Terminals installed at client trust departments are tied into a dedicated SEI network connected to one of SEI's three data centers.
 - Customer statements and management reports are printed at SEI and mailed to SEI clients.
 - Approximately 10% of SEI's remote service clients, normally the medium- to large-sized trust departments, use a service option that permits printing high volume reports and customer statements on-site.
 - Prime 250 or 450 minicomputers are installed at client sites with high-speed impact printers and tape storage options.
 - The network is controlled by two Prime 400s located within SEI's operations center.
 - Five percent of SEI's clients have a standalone TRUST-AID turnkey system installed.
 - Depending on the client's requirements, a Prime 450, 750, or 850 is purchased or leased through SEI.
 - Most modules of the TRUST-AID system are available for the in-house system.
 - Pricing varies depending on individual configuration requirements.
 - Clients with an on-site TRUST-AID system include Wells Fargo, Shawmut Bank of Boston, and InterFirst Bank, Dallas.

- In late 1981 SEI introduced TRUSTPAC, a minicomputer-based trust accounting and management system for small trust departments. TRUSTPAC was acquired from a software house in Connecticut.
 - . TRUSTPAC operates on Data General minicomputers and is a standalone turnkey system.
 - . The system was developed for community bank trust departments handling up to \$100 million in trust assets.
 - . TRUSTPAC is priced at about \$45,000. Although there was no significant revenue generated from this product in 1981, management anticipates it may contribute up to 2% of total revenue in 1982. There are 12 systems installed, including the installations acquired from the software house.
- In conjunction with the TRUST-AID service, SEI developed CUSTODY-AID, which establishes a communications link between the TRUST-AID customer and a custodian. The link is initiated as a customer's trade records are updated during processing in a real-time, interactive security movement and control environment. Communication continues as the movement of securities is tracked until their final settlement. The custodian can settle instructions, post income, produce automatic affirmations, mature assets, reconcile positions, and transmit trade. Over 20 clients use the CUSTODY-AID interface.
- Also integrated with the TRUST-AID system is the Performance Measurement Reporting (PMR) system. PMR facilitates report generation.
 - Portfolio components are separately tracked and compared against the appropriate index.
 - The preferred regression analysis technique is employed to calculate the time-weighted rates of return.
 - Clients can customize reports to include any or all tables and consolidate accounts for Master Trust Reporting.
 - There are approximately 20 clients using the PMR program.
- In 1981 SEI began offering an Employee Benefit Reporting (EBR) system and a participant recordkeeping system (ERISA-AID) as separate software modules which can be run on a client's minicomputer and linked to the SEI network.
 - EBR is an add-on to the TRUST-AID system.
 - . EBR has been successful in attracting new and larger customers to the TRUST-AID system because of its dependency on TRUST-AID software.

SEI CORPORATION

- EBR produces information for the Department of Labor's Form 5500 (including Sections 13 and 14 and 3% reporting by party and interest transaction). It produces management reports that include a balance sheet, statement of operations, the source and applications of funds, schedules of acquisitions and dispositions, asset management reports, fail-float reporting, accrual accounting, trade date accounting, unlimited transaction maintenance, and report pre-editing. EBR utilizes accounting and integrates accounting and reporting.
 - There are currently 15 clients of this service.
- ERISA-AID operates independently of the TRUST-AID system and enables clients to control the processing and reporting of participant accounting.
 - The system handles various plans: Money Purchase, Profit Sharing, Thrift, Savings, IRAs, ESOPs, TRASOPs, and 401(K)s.
 - Clients can process according to their own schedules, separately track multiple investment funds, erase allocations, process carry forwards and reallocations, calculate vested money, make vesting adjustments for breaks in service, and set up multiple vesting schedules.
 - Spreadsheet reports can be designed to meet the criteria specified from more than 500 data items available.
 - Calculations can be performed to produce new data items.
 - There are currently 30 clients of this service including North Carolina National Bank and Booz, Allen and Hamilton, Inc.
- In February 1982 SEI announced the Personal Financial Account (PFA) system, which consolidates banking and trust services.
 - PFA's design is based on the Cash Management Account (CMA) introduced by Merrill Lynch in 1977. Similar products are now offered by Sears/Dean Witter, Shearson/American Express, and Prudential/Bache.
 - Services available through PFA will include checking, automatic money market fund investment, time deposits, debit/credit card, line of credit, secured and unsecured loans, security trading, security safe-keeping, bill paying, tax reporting, and cash flow projections.
 - The system will be appropriate to clients of all sizes. SEI converted the first client during the third quarter of 1982.
- A new subsidiary, SEI Financial Services Company, was formed in 1981.

SEI CORPORATION

- In January 1982 the subsidiary began furnishing automated services that perform daily sweeps of trust account cash balances, investing available cash in Trust Funds Liquid Asset Trust, a no-load, open-end money market fund managed by SEI Financial Services and advised by Thorndike, Doran, Paine and Lewis. SEI has 81 clients using this service.
- Later this year SEI expects to start other funds and initiate security execution services through SEI Financial Services.

INDUSTRY MARKETS

- One hundred percent of SEI's revenue is derived from the banking and financial industry, both from trust departments of commercial banks and trust and title companies.

GEOGRAPHIC MARKETS

- Virtually all of SEI's business is concentrated in the United States. SEI maintains offices in Philadelphia, Chicago, and Los Angeles.

COMPUTER HARDWARE AND SOFTWARE

- SEI operates two data centers in Wayne (PA) and one center in Los Angeles.
 - One Wayne data center controls the TRUST-AID service and uses:
 - . 7 Prime 750s.
 - . 17 Prime 400s.
 - . 7 Prime 450s.
 - . 1 Prime 850.
 - The second Wayne data center handles batch services, development, ERISA-AID processing, and new client conversions. Hardware in this facility consists of:
 - . 6 Prime 750s.
 - . 1 Prime 450.
 - . 7 Prime 400s.
 - The Los Angeles data center became operational in March 1981. A total of eight machines are in this facility consisting of:
 - . 1 Prime 400.
 - . 3 Prime 450s.
 - . 4 Prime 750s.
 - Terminals supported include DEC and Lear Siegler.

SUMMARY

- SEI is in a unique position to take advantage of its trust-processing customer base aligned with its trust fund. Revenue from the latter could double SEI revenue in 1983. The company is technically strong and has very strong management.

COMPANY HIGHLIGHT

SYSTEMATICS, INC.
4001 Rodney Parham Road
Little Rock, AR 72212
(501) 223-5100

Ray Maturi, President
Public Corporation, OTC
Total Employees: 1,489
Total Revenue, Fiscal Year End
5/31/83: \$63,000,000*
Market Value: \$198 million

THE COMPANY

- Founded in 1968, Systematics, Inc. provides facilities management (FM) processing services to the commercial banking industry. In 1980 the company also began marketing applications software to banks.
- Until 1981 Systematics operated as an unconsolidated, majority-owned (75%) subsidiary of Stephens Inc., an investment banking firm also located in Little Rock. In August 1981 an initial public offering of 880,000 shares of Systematics common stock was made.
 - Proceeds of \$11.5 million were used to retire existing long-term debt, to repay financing for a portion of construction cost of a new headquarters facility, and for general corporate purposes including additions to working capital, purchase of additional data processing equipment, and possible acquisitions.
 - Upon completion of this offering, Stephens Inc. owned 62% of the outstanding shares of Systematics stock.
- On October 28, 1982 the company offered an additional 440,000 shares of common stock.
 - Proceeds of \$11.6 million will be added to working capital and to finance possible acquisitions.
 - Upon completion of this second offering, Stephens Inc. owned 48.7% of the outstanding shares of Systematics stock.
- Fiscal 1982 revenue reached \$49.3 million, an increase of 36% over 1981 revenue of \$36.3 million. Net income increased 62% to \$3.2 million from \$1.99 million. A five-year financial summary follows:

*INPUT estimate

SYSTEMATICS, INC.

SYSTEMATICS, INC.
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM \ FISCAL YEAR	5/82	5/81	5/80	5/79	5/78
Revenue	\$ 49,308	\$ 36,335	\$ 30,284	\$ 24,428	\$ 18,211
• Percent increase from previous year	36%	20%	24%	34%	37%
Income before taxes and extraordinary item	\$ 5,150	\$ 3,131	\$ 2,477	\$ 1,747	\$ 1,232
• Percent increase from previous year	64%	26%	42%	42%	28%
Net income	\$ 3,236	\$ 1,993	\$ 1,327	\$ 958	\$ 670
• Percent increase from previous year	62%	50%	39%	43%	38%
Earnings per share	\$ 0.68	\$ 0.49	\$ 0.32	\$ 0.23	\$ 0.17
• Percent increase from previous year	39%	53%	39%	35%	N/A

- In August 1982 Systematics purchased St. Joseph Systems Inc. of South Bend, Indiana. The company markets software and processing services to bank trust departments.
- In 1983, \$4.0 million (4% of revenue) will be spent on research and development as compared to \$2.0 million (4% of revenue) in 1982. As of August 31, 1983, the company employed 88 full-time computer programmers and technical personnel in system development and support.
- The company continued its commitment to the education and training of its personnel. In fiscal 1982 these expenditures reached \$750,753 as compared with \$616,920 in 1981 and \$444,265 in 1980.
- The company has four division:
 - FM East is responsible for facilities management contracts for the eastern U.S.
 - FM West is responsible for facilities management contracts for the western U.S.
 - Remote Services handles the services contracts for remote processing services for community banks.
 - Software Marketing is responsible for application software products.

SYSTEMATICS, INC.

- Systematics' 1,489 employees are segmented approximately as follows:

Managerial	156
Technical specialists	423
Operating personnel	<u>910</u>
	1,489

- Major competitors for processing services are Electronic Data Systems and National Sharedata. The company's largest competitor in the software field is the Kirchman Corporation.

KEY PRODUCTS AND SERVICES

- Approximately 96% of fiscal 1982 revenue was derived from processing services (facilities management) and 4% from applications software.
- The company's primary market for its products and services are the 14,500 commercial banks in the U.S.
- Processing services are provided to over 500 financial institutions nationwide from the company's 41 data centers under one of two types of contracts.
 - A facilities management contract is used with larger banks, generally those with deposits of \$250 million or more.
 - . The computer hardware and data center staff are located in or near the bank.
 - . Such contracts usually have a term of five years and include a 99-year nonexclusive license for the client to use the software for internal processing.
 - . The company has 37 facilities management contracts under which it performs processing for 38 larger banks and 173 smaller banks (including 155 banks which have subcontracts with the larger banks).
 - . Thirty-six of the company's data centers are devoted to processing under these contracts.
 - A services contract, usually from three to five years in length, is used for the company's smaller bank clients.
 - . These banks do not acquire rights to continued use of Systematics' software after the expiration of the contract.
 - . Because processing is done at remote locations that service several clients, it tends to be less customized.

- . The company has 59 service contracts with 68 banks.
- . Five of the company's data centers are devoted to processing under these service contracts.
- Systematics has developed a complete set of integrated banking and financial applications software termed the Family of Financial Systems. These systems, available through FM processing services and as software products, include:
 - Deposit Systems.
 - . Item Processing System: distributes and balances transactions, facilitates float management, creates cash letters, document lists, and control totals for all end points.
 - . Integrated Monetary Processing and Control System (IMPACS): processes demand deposits, overdrafts plus attached savings accounts and loan accounts, provides exacting audit and accounting controls, analytical information for financial management, and operations and customer reporting.
 - . Accounts Reconciliation System: provides reconciliation processing and customer reports.
 - . Savings/Time Deposit Systems: processes savings accounts, certificates of deposit, time deposit open accounts, individual retirement accounts, and club accounts.
 - Loan Systems.
 - . Commercial Loans System: provides information on individual loans and reports on customers and their liabilities/relationships with their bank.
 - . Dealer Floor Plan: a subsystem of the Commercial Loans System, provides collateral and inventory reporting for the inventory-type "dealer flooring" loans.
 - . Installment Credit System: reports and manages consumer loans, providing various interest accrual and payment methods, and has accounting capabilities demanded by government regulatory agencies.
 - . Dealer Reserve: a subsystem of the Installment Credit System, provides accounting and reporting on indirect dealer loans.
 - . Mortgage Loans System: provides management of mortgage loans.

- Charged Off Loans: manages and processes charged off loans. It can operate separately or as a subsystem to the other loan systems.
- Financial Systems.
 - Financial Management System: provides a general ledger system together with responsibility center reporting, budgeting, historical analysis, and cost allocation subsystem information.
 - Inter-System Item Transfer: provides a means for entering items from all the applications systems into the general ledger.
- In-Bank Systems.
 - Investments: provides accurate pricing, future maturity, and yield information on bonds.
 - Payroll: provides payroll accounting processing and labor distribution information.
 - Project Control System: provides scheduling and monitoring of data processing projects.
- On-Line Systems.
 - Information Access System: allows for interapplication communications capabilities including data entry, file maintenance, inquiry, transaction verification, report viewing, memo posting of monetary transactions, and stop/hold processing.
 - Financial Information Access System: allows communications capabilities for all batch applications. This is a menu-driven system using CICS as a teleprocessing monitor.
 - Customer Reference File System: supports automated teller machines by cross-referencing individual accounts, keeping inventory of the "money cards," and automatically reordering cards when necessary.
 - Customer Information File: manages customers' personal information such as name, address, census and credit data, and provides data on customer-account relationships.
- All banking services are available for on-line or batch modes and have multi-bank, multibranch capabilities.
- Major processing clients are located nationwide, and range in size from approximately \$50 million to \$8 billion in assets.

SYSTEMATICS, INC.

- Systematics software products run on IBM mainframes under the DOS/VSE operating system.
 - The software may be purchased as an integrated system or as individual applications.
 - There are currently about 27 clients who have purchased the software for in-house use.
 - All of the applications available through Systematics' FM processing services may be purchased as software products. Pricing is available upon request.

INDUSTRY MARKETS

- Substantially all of Systematics' fiscal 1982 revenue was derived from commercial banks.

GEOGRAPHIC MARKETS

- One hundred percent of Systematics' fiscal 1982 revenue was derived from the U.S.

COMPUTER HARDWARE AND SOFTWARE

- Systematics operates 41 data centers in 20 states. Data centers are located in Arizona, Arkansas, California, Idaho, Illinois, Indiana, Kansas, Louisiana, Michigan, Minnesota, Missouri, New Mexico, New York, Pennsylvania, Tennessee, Texas, Utah, Vermont, Washington, and Wyoming.
- Systematics' data centers all use IBM equipment. Host computers are typically IBM 4341s and 4331s. Over 47 systems are installed at various locations.
- The network supports CRTs, manned teller terminals, automated teller machines (ATMs), point-of-sale terminals, audio response units, AT&T view sets, and other banking peripheral equipment.
- The network is accessed via dial-up and leased lines.

SUMMARY

- Systematics is an excellent acquisition target. The current investment banking ownership has not hindered the company's growth in servicing other banks, and the company's management is sound.

COMPANY HIGHLIGHT

TELCREDIT, INC.
1901 Avenue of the Stars
Los Angeles, CA 90067
(213) 277-4061

Lee A. Ault, President
Public Corporation, OTC
Total Employees: 768
Total Revenue, Fiscal Year End
4/30/82: \$57,861,000
Market Value: \$148 million

THE COMPANY

- Telecredit was incorporated in 1961 to provide computerized check verification services in California. Check guarantee, collection services, point-of-sale terminal support, and credit card authorization and processing services were subsequently added. Telecredit is the national leader in check guarantee, authorizing more than \$2 billion worth of checks annually.
- Telecredit now markets these services to retail merchants, banks, credit unions, savings and loans, hotels, automobile dealers, hospitals, and other industries nationwide. In 1982 the company began providing home banking services, whereby customers pay bills and transfer funds using a Telecredit terminal.
- In 1982 Telecredit acquired substantial minority interests in DMC Systems Inc. (terminal manufacturer) and Light Signatures (counterfeiting detection technology).
- For the first nine months of fiscal 1983 revenue was \$45,152,000 and net income of \$3,377,000. Estimates for 1983 are for revenue of \$65,000,000.

TELECREDIT, INC.
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands)

ITEM \ FISCAL YEAR	4/82	4/81	4/80	4/79	4/78*
Revenue	\$ 57,861	\$ 45,581	\$ 38,435	\$ 31,830	\$ 24,698
. Percent increase from previous year	27%	19%	21%	29%	26%
Income before taxes and extraordinary item	\$ 5,751	\$ 5,058	\$ 1,011	\$ 2,560	\$ 1,576
. Percent increase from previous year	14%	400%	(61%)	62%	(18%)
Net income	\$ 3,330	\$ 2,747	\$ 741	\$ 1,470	\$ 817
. Percent increase (decrease) from previous year	21%	271%	(50%)	80%	(51%)
Earnings per share	\$ 1.15	\$ 1.12	\$ 0.31	\$ 0.91	\$ 0.51
. Percent increase (decrease) from previous year	3%	261%	(66%)	78%	(54%)

* Restated figures reflect the pooling of interest acquisition of Florida Service Center in September 1977.

- 1980 performance was significantly affected by costs (\$1.1 million in fiscal 1980) to convert Telecredit's IBM based software to run on Tandem minicomputers, and marketing expenses to start the Welcome Check services.
 - Telecredit spent \$0.7 million in fiscal 1981, \$1.3 million in fiscal 1980, and \$0.9 million in fiscal 1979 for purchased and internally developed software.

TELECREDIT, INC.

TELECREDIT, INC.
SOURCES OF REVENUE
(\$ thousands)

ITEM	FISCAL YEAR	4/82	4/81	4/80	4/79	4/78
Checking services		\$ 31,531	\$ 28,914	\$ 23,499	\$ 18,981	\$ 15,293
• Percent increase from previous year		9%	23%	24%	24%	24%
Credit card services		\$ 19,928	\$ 14,928	\$ 13,942	\$ 12,135	\$ 8,982
• Percent increase from previous year		34%	7%	15%	35%	35%
Other payment services		\$ 1,889	-	-	-	-
Patent licenses/other		\$ 80	\$ 589	\$ 186	\$ 100	0
• Percent increase from previous year		(86%)	217%	86%	-	-
Honest Face services		\$ 1,900	-	-	-	-
Interest income		\$ 2,533	\$ 1,150	\$ 808	\$ 614	\$ 423
• Percent increase from previous year		120%	42%	32%	45%	68%
Total		\$ 57,861	\$ 45,581	\$ 38,435	\$ 31,830	\$ 24,698

ACQUISITIONS

- In May 1981 Telecredit acquired 16% of Light Signatures, Inc., for \$1.75 million. Light Signatures, a privately held corporation, is developing a computer-based system to detect counterfeiting of documents and other products such as jeans, records, tapes, checks, driver's licenses, and passports.
- In June 1981 Telecredit acquired 20% of DMC Systems Inc. for \$0.75 million. DMC manufactures terminals and microcomputer systems, including the point-of-sale terminals used by Telecredit.
- In June 1981 Telecredit acquired, for \$3.1 million, the assets of the check authorization program known as Honest Face Systems owned by the First National Bank of Atlanta. Honest Face Systems, a card-based check acceptance system, operates in Georgia supermarkets.
- In March 1981, Telecredit acquired Centel Transaction Services, a subsidiary of Central Telephone and Utilities Corporation. Centel provides check approval and credit card authorization services through point-of-sale terminals located in Nevada retail merchant establishments.

TELECREDIT, INC.

EMPLOYEES

- As of April 1981, Telecredit had 768 full-time employees, distributed approximately as follows:

- Marketing and sales	270
- Computer operations	340
- General and administrative	<u>158</u>
	768

KEY PRODUCTS AND SERVICES

- Telecredit provides check authorization services, card transaction processing services, patent licenses, and collection services. Over 100,000 retail outlets use Telecredit services.
- Check authorization includes five companies.
 - Check Verification Services became available from Telecredit in 1961. The data base, developed from banking, retailer, and law enforcement information, can be queried 24 hours a day, seven days a week.
 - Telecredit has nearly 10,000 subscribers to this program. Clients contract for a specified number of inquiries, with additional inquiries billed at a per-check fee.
 - Most users are high-volume retail or banking establishments in California.
 - Check verification provides no guarantee or purchase agreement on returned checks.
 - Check Guarantee Services were introduced in 1966. Under this program Telecredit guarantees its subscribers against loss on all approved checks. Telecredit does not normally approve money orders, insurance drafts, travelers checks or checks over \$1,500.
 - This agreement requires Telecredit to purchase from its subscribers at face value all returned checks it has approved.
 - Telecredit has contracted with Lumberman's Mutual Casualty Company, part of the Kemper Insurance Group, to provide a surety bond to assure Telecredit's check guarantee obligations.
 - Telecredit has about 90,000 clients for this service in the U.S. Fees range from 2% to 4% of the guaranteed check's face value.

TELECREDIT, INC.

- The value of checks purchased in fiscal 1982 was \$1.2 billion, up 23% over 1981. Introduction of negotiated order withdrawals for savings and loans, and share drafts for credit unions, made available new check guarantee markets.
- Point-of-Sale Check Verification and Guarantee services began in January 1976. Telecredit makes its data base available to 35 financial institutions, serving 10,000 terminals.
 - Each institution is responsible for installing, operating, and maintaining its system. Queries go to the Telecredit data base without operator intervention.
 - Clients include American Express, Bank of America, Chase Manhattan Bank, First National Bank of Chicago, Security Pacific Bank, Wells Fargo Bank, and others.
 - Telecredit has installed its own proprietary systems in Florida and Nevada. The Florida systems were installed by Telecredit's Financial Transaction Systems subsidiary in Nevada and by the Central Communications Company subsidiary.
 - Other Telecredit services include returned check claims processing, telephone backup, computer operations assistance, consumer inquiry support, and Fair Credit Act reporting.
- Collection Letter Services began in 1970 with the formation of Telecredit's Collection Services subsidiary to aid subscribers with collection of bad checks and unpaid receivables.
 - Collection letters are generated on Telecredit's data processing equipment from information provided by the subscriber and from Telecredit's data base.
 - Debtors pay the creditor directly. Telecredit fees are a fixed price for each collection letter series and are not contingent on the collection of debt.
- Welcome Check Card Services became available in 1978. Under this service, participating institutions provide Telecredit with financial information about their customers. Institutions or Telecredit issue Welcome Check cards or place the Wecome Check logo on existing cards for identification. Merchants are charged a lower rate for check guarantee of Welcome Check cardholders since the risk to Telecredit is lower.
 - Participating institutions are responsible for attracting as many merchants as possible to the program.

TELECREDIT, INC.

- . Welcome Check Card programs are available in New York through Chase Manhattan Bank, in Baltimore and Washington through the Equitable Trust Company, in Cincinnati and Dayton through the Central Trust Company, and in California through Wells Fargo Bank.
- . The program is available in Florida from 72 Florida bank members of Florida EFT, Inc., an association of 440 Florida banks.
- . The program is available in California through 20 credit unions and six savings and loan institutions.
- . Chase Manhattan Bank has agreed to offer the service to its correspondent banks in all states except California and Florida.
- Credit Card Transaction Processing Services became available from Telecredit through the 1977 acquisition of Florida Service Center. Telecredit handles the transfer and accounting of card sales slips from the receiving merchant's bank through the processing center of Visa or MasterCard to the bank or other institution issuing the card.
 - Services available for MasterCard and Visa credit cards include:
 - . Transaction settlement and clearing.
 - . Monthly card holder billing statement preparation.
 - . Card holder payment processing.
 - . Credit card embossing.
 - . Merchant training in Telecredit services.
 - . Credit card supply provision.
 - . Question answering service.
 - Telecredit agrees to reimburse the merchant's bank within three business days following receipt of the sales slip. If Telecredit is unable to complete the transaction in this time, it must use its own or borrowed funds to meet the obligation.
 - In fiscal 1982 total transaction value increased to \$567 million from \$477 million in 1981.
 - Though card processing services are available nationwide, revenues for this segment are primarily from merchants depositing with, or transactions involving cards issued by, banks belonging to Financial Transaction Systems (FTS), Inc. FTS is a Florida nonprofit bank service corporation with approximately 100 member banks.
 - . Telecredit's contract with FTS expires in 1982. A new three-year contract is being negotiated.

TELECREDIT, INC.

- Telecredit has access to the Visa and MasterCard authorization networks through its FTS contract.
- Telecredit contracted with the Florida Infromanagement Services (FIS) division of Florida Savings and Loan Services Inc., in December 1980 to issue and process Visa debit cards for the 93 savings and loan institutions associated with FIS.
 - This represents Telecredit's first savings and loan contract for card processing services.
 - Telecredit has worked with credit unions since 1978. There are 115 credit unions currently contracted with Telecredit.
- Telecredit also provides card authorization to merchants from the Visa, MasterCard, American Express, Carte Blanche, and Diners Club authorization centers. Revenue contribution from these services is not significant.
- Other services consist mainly of patent licensing agreements and sales of excess computer time.
 - Patent licenses contributed \$589,000 in revenue and \$199,000 in net income during fiscal 1981. Since 1974 a total of \$4 million in revenue have originated in patent license agreements.
 - There are 19 licenses to date of Telecredit patents. These have been to Burroughs, Concord Computing, Diebold, Docutel, General Instrument, IBM, NCR, Telecheck, Texas Instruments, Tymshare, ARDAC (Sweden), ASEA (Sweden), CIT (France), DATASAAB (Sweden), Electronique Marcel Dossault (France), and Fujitsu (Japan).
- Telecredit introduced a home banking service in 1982. Another market area under investigation is an automated teller machine (ATM) network.

GEOGRAPHIC MARKETS

- Almost 100% of Telecredit's revenue is derived from the U.S., with an insignificant amount coming from Canada and South America. Heaviest concentrations are in major metropolitan areas of California, Florida, Massachusetts, New York, Texas, and the District of Columbia.
- Telecredit markets its credit card and checking services through 14 sales offices nationwide.

TELECREDIT, INC.

COMPUTER HARDWARE AND SOFTWARE

- Telecredit operates computer facilities in Tampa (FL) and Los Angeles (CA). Installed equipment includes:
 - 1 IBM System/370 Model 145 in Tampa.
 - 1 IBM System/370 Model 158 in Los Angeles.
 - 2 IBM System/7s in Los Angeles.
 - 2 Tandem NON-STOP minicomputer systems in Tampa.
- Telecredit plans to expand its computer facilities by adding additional Tandem systems rather than upgrading the IBM mainframes.
- In 1982 Telecredit consolidated all programming and computer processing in a new Tampa facility and established a new Telecredit facility in Atlanta to service Honest Face clients.

SUMMARY

- Although some slowdown in consumer spending could affect the business, the long-term outlook is strong for credit services, and there is substantial penetration potential. Telecredit is an established competitor and should be able to take advantage of new technologies like the emergence of signature verification hardware. The management team understands its business and has the courage and conviction to identify a course of action and stick to it.

COMPANY HIGHLIGHT

TELERATE SYSTEMS INC.
One World Trade Center
New York, NY 10048
(212) 938-5200

Neil S. Hirsch, President and CEO
Wholly owned subsidiary of Telerate,
Inc.
Total Employees: 178
Total Revenue, Fiscal Year End
9/30/82: \$41,600,000
Market Value: \$880 million

THE COMPANY

- Telerate Systems Inc. (TSI), founded in 1969 by Neil S. Hirsch, provides on-line financial market data to securities firms, banks, other financial institutions, and corporations. The basic services include money market instruments, U.S. training and federal agency securities, foreign exchange, precious metals and mortgage markets.
 - In October 1980 Telerate, Inc. was formed as a holding company and owner of all the outstanding stock of TSI. TSI has since been the major operating subsidiary of Telerate, Inc.
- Fiscal 1982 revenue reached \$41.6 million, a 50% increase over 1981 revenue of \$27.7 million. Net income rose 69% from \$6.6 million in 1981 to \$11.1 million in 1982. A five-year financial summary follows:

TELERATE SYSTEMS INC.

TELERATE, INC.
FIVE-YEAR FINANCIAL SUMMARY
(\$ thousands, except per share data)

ITEM	FISCAL YEAR	9/82	9/81	9/80*	8/79	8/78
Revenue		\$ 41,600	\$ 27,652	\$ 17,181	\$ 11,809	\$ 7,288
• Percent increase from previous year		50%	61%	45%	62%	N/A
Income before taxes		\$ 21,573	\$ 13,135	\$ 7,036	\$ 3,994	\$ 1,723
• Percent increase from previous year		64%	87%	76%	132%	N/A
Net income		\$ 11,136	\$ 6,594	\$ 3,637	\$ 2,073	\$ 970
• Percent increase from previous year		69%	81%	75%	114%	N/A
Earnings per share		\$ 0.28	\$ 0.16	\$ 0.09	\$ 0.05	\$ 0.02
• Percent increase from previous year		75%	78%	80%	150%	N/A

* Telerate's fiscal year was changed from August to September in 1980.

- On March 28, 1983, Telerate, Inc. made an initial public offering of 4 million shares of common stock.
 - Proceeds of approximately \$80 million are expected to be used for development and implementation of alternative communications systems, purchase of computer equipment, expansion of headquarter facilities, new product design and development, and possible acquisitions of, or investments in, related businesses. A portion of the proceeds will be used to repay a revolving credit loan that totaled \$7.5 million as of March 31, 1983.
 - As a result of the offering, Exco International, a U.K. holding company, will own approximately 49% of Telerate's common stock. Exco owns two London-based money brokers, the Astley & Pearce and Godsell Groups.
- Revenue for the five months ending February 28, 1983 reached \$23.7 million, a 56% increase over \$15.2 million for the same period in 1982. Net income rose 68% for the period, from \$3.98 million in 1982 to \$6.69 million in 1983.
- A second Telerate subsidiary, Telerate Market Systems Inc. (TMS), was recently established to develop software products to perform financial calculations and analyses using the data available on the Telerate Network.

TELERATE SYSTEMS INC.

- As of September 30, 1982, Telerate Systems Inc. had 178 employees.
- Major competitors include Quotron Systems, GTE Telenet Information Services, and Bunker Ramo Information Systems.

KEY PRODUCTS AND SERVICES

- One hundred percent of TSI's fiscal 1982 revenue was derived from remote computing services provided primarily under two-year subscription agreements.
- The Telerate Financial Information Network is an on-line system that provides subscribers with current financial market data. At March 1, 1983 the Telerate Network served more than 3,600 subscriber locations in the U.S. through over 6,800 on-line, Telerate-owned video terminals. The Network also serves approximately 1,000 subscriber locations in over 20 countries outside the U.S. through over 2,000 terminals.
 - Over 250 leading banks, securities firms, and other financial institutions currently contribute information to the Telerate Network.
 - TSI has developed pages of current composite information for particular financial markets, allowing the subscriber to view a summary of key information on a particular market. Certain pages also allow subscribers to compare the most recent prices and quotations contributed by various sources.
 - Information provided to subscribers is automatically updated by TSI staff and contributors linked to the Network via computer or terminal.
 - Significant market developments are signaled to subscribers by audible and visual alerts on their terminals.
- TSI's basic service includes the following categories of on-line information:
 - U.S. Treasury and federal agency securities: the Telerate Network provides current quotations on most actively traded U.S. Treasury and federal agency issues and reports on significant developments in this marketplace, including open market activity by the Federal Reserve System.
 - . Price and quotation information from Cantor Fitzgerald Securities Corporation, a government securities broker, is provided along with U.S. Treasury and agency securities quotations from three dealers.
 - . The results of Treasury auctions and Federal Reserve System and U.S. Treasury statistics are also reported.

TELERATE SYSTEMS INC.

- Money market instruments: quotations are provided for all types of major money market instruments (bankers acceptances, certificates of deposit, commercial paper, repurchase agreements) as well as key interest rate information including federal funds rates and the prime rates of over 100 commercial banks.
- Foreign exchange: the Network displays current quotations for key world currencies and Euro-deposit markets as contributed directly by more than 150 banks and nine brokers worldwide.
- Precious metals: quotations for gold, silver, and other precious metals are contributed by dealers in international bullion centers including New York, London, Zurich, and Hong Kong.
- Mortgage markets: a service designed for mortgage bankers and dealers in mortgage-backed securities and participation certificates reports on pooled mortgage package markets supported by agencies including the Federal National Mortgage Association and Government National Mortgage Association.
- Summary financial news: included in the basic service are summaries of leading foreign exchange and money market news developments as compiled from the Dow Jones News Service and TSI's newsroom.

- Optional services available through the Telerate Network include:
 - Futures: the Network offers financial, currency, energy, and metal futures data, including last-sale prices, quotations, and related contract information on major U.S. and U.K. exchanges.
 - Other financial information: Standard & Poor's Blue List municipal and corporate bond service, cash and futures price data for petroleum and other energy-related products, money market commentaries from independent analysts and services, and publicly traded equity securities quotations from Quotron Systems, Inc. and Bridge Data Company.
 - News services: various Dow Jones newswires, the Bond Buyer Wire Service, and the Commodity News Service.
- Telerate's basic service and communications charges are \$540 per terminal per month for U.S. subscribers. Additional charges are made for optional services and equipment (such as printers and additional display monitors). As a result, the average U.S. customer pays approximately \$700 per terminal per month.
 - Subscribers also pay a one-time installation fee of \$500 per terminal.
 - Certain optional services (such as Quotron quotations or optional Dow Jones newswires) require additional payments directly to the vendor and are not included in Telerate's revenue.

TELERATE SYSTEMS INC.

- Subscribers in some remote locations pay an additional monthly communications charge to cover part of the cost of a dedicated common carrier circuit to the location.
- Prices for international clients vary by location and are generally higher than prices paid by U.S. subscribers.
- TSI is currently developing a microcomputer-based terminal, the Telerate II. The system will store 100 pages in the subscriber's terminal and perform financial calculations and analyses using the market data available through the Telerate Network. Availability in selected cities is scheduled for late 1983.

INDUSTRY MARKETS

- In fiscal 1982 TSI derived approximately 90% of its revenue from the banking and finance industry and 10% from other commercial institutions, segmented as follows:

Securities and investment banking firms	35%
Commercial banks	29
Finance companies and corporations	9
Mortgage bankers	9
Savings and loan associations	8
Other (insurance, pension funds, credit unions, government agencies, and other)	<u>10</u>
	100%

- The company's subscribers as of March 1, 1983 include all 100 of the largest U.S. banks and 45 of the 50 largest U.S. investment banking/brokerage firms.

GEOGRAPHIC MARKETS

- TSI's fiscal 1982 revenue was derived approximately as follows:

U.S.	78%
Non-U.S.	<u>22%</u>
	100%

- The company has regional offices in Atlanta, Chicago, Los Angeles, and San Francisco.
- In Canada, Combined Market Quotations, Inc. (CMQ) is the exclusive distributor of the Telerate Network. CMQ bears all expenses of distributing the Network in Canada and pays TSI fees of approximately \$40,000 per month. There are currently over 280 Telerate terminals in Canada.
- The Telerate Network is marketed outside the U.S. and Canada by Dow Jones & Company and The Associated Press (together, APDJ) under an exclusive distribution agreement between Telerate and Dow Jones.

TELERATE SYSTEMS INC.

- Terminals are located in more than 20 countries, with the highest concentrations in the U.K., Hong Kong, Switzerland, Singapore, and Japan.
- APDJ has granted exclusive third-party sublicenses for marketing the Telerate Network in countries including Switzerland, West Germany, Japan, France, and Italy.

COMPUTER HARDWARE AND SOFTWARE

- TSI uses a total of 40 Perkin-Elmer 32-bit Megamini computers.
 - Twenty-eight of these are located at the New York City headquarters, and 4 in Atlanta, 4 in Chicago, and 4 in Los Angeles regional offices. Ten other computers, owned by the company's overseas marketing agent, are located in London, Frankfurt, Zurich, and Hong Kong.
- The Telerate Network's information data base is processed by New York City office computers. Data is then transmitted via common carrier circuits to the regional computers and to the computers of Dow Jones and The Associated Press in London, Hong Kong, Frankfurt, and Zurich.
 - Regional computers relay data to Telerate terminals in subscribers' offices through dedicated common carrier circuits leased primarily from local telephone companies.
 - All central and regional computers are fully duplicated for on-line backup.

SUMMARY

- TSI's business should be highly recession proof but, more important, they are capturing a broad market by placing their terminal devices in the Treasury function of financial establishments. This means they can grow organically by adding applications, services, and data bases. The terminal technology is good, but the strength of TSI lies in its terminal base plus its agreements with the 250 banks and financial institutions that provide them with their data.

COMPANY HIGHLIGHT

TIME SHARING RESOURCES, INC.
 777 Northern Boulevard
 Great Neck, NY 11021
 (516) 487-0101

Joseph F. Hughes
 Chairman and President
 Public Corporation, OTC
 Total Employees: 130
 Total Revenue, Fiscal Year End
 5/31/82: \$12,422,000
 Market Value: \$8 million

THE COMPANY

- Founded in 1969, Time Sharing Resources, Inc. (TSR) provides timesharing and decision support services to over 350 organizations. Through subsidiary operations, TSR also provides contract programming, consulting, and specialized data processing services.
- Fiscal 1982 revenue increased 51% to 12.4 million from 8.2 million during the previous year, while profits rose 62%. The decline in profits and revenue for fiscal 1980 was attributed to the loss of two major customers.

TIME SHARING RESOURCES, INC.
FIVE-YEAR FINANCIAL SUMMARY
 (\$ thousands, except per share data)

ITEM	FISCAL YEAR	5/82	5/81	5/80	5/79	5/78
Revenue		\$ 12,422	\$ 8,211	\$ 5,100	\$ 5,657	\$ 4,638
• Percent increase (decrease) from previous year		51%	61%	(10%)	22%	72%
Income before taxes and extraordinary item		\$ 1,731	\$ 1,023	\$ 679	\$ 1,609	\$ 1,309
• Percent increase (decrease) from previous year		69%	50%	(58%)	23%	41%
Net income		\$ 973	\$ 600	\$ 416	\$ 850	\$ 746
• Percent increase (decrease) from previous year		62%	44%	(51%)	14%	159%
Earnings per share		\$ 0.85	\$ 0.53	\$ 0.37	\$ 1.01	\$ 0.92
• Percent increase (decrease) from previous year		60%	43%	(63%)	10%	163%

TIME SHARING RESOURCES, INC.

- Interim results for fiscal 1983 nine months were \$10,144,000 revenues and \$726,000 net income versus \$9,105,000 and \$721,000 for the comparable 1982 period.
- In 1981 TSR formed TSR Consulting Services, Inc., an 80% owned subsidiary that provides contract programming and consulting services.
- In March 1981 TSR acquired the assets of CDP Marketing Information Corporation, a company specializing in bank information processing.
- As of November 1981, TSR's employees were segmented as follows:

- Sales and marketing	45
- Software services/customer support	40
- Computer operations	30
- General and administrative	15
	130

KEY PRODUCTS AND SERVICES

- TSR revenues are derived as follows:

- Interactive processing services	92%	\$7,554,310
- Professional services	<u>8</u>	<u>656,896</u>
	100%	\$8,211,206
- Software on TSR's network is concentrated on products for decision support services, data base management, and financial systems. All TSR products contain flexible report writing and graphic display capabilities, and many have built-in sensitivity analysis and "what if" modeling features.
- TSR applications are used for financial management, corporate and strategic planning, marketing and sales, engineering and operations, and administration. A profile of applications available on the network is presented in the exhibit.
- Proprietary applications on the network include:
 - SHELL, a data base management system.
 - INSIGHT, for financial analysis.
 - QED, a forecasting and modeling systems.
- In fiscal 1980, TSR introduced its VM/CMS service, which accounts for about 9% of its timesharing revenues. The TOTAL/APL service is being upgraded and enhanced to operate under the VM/CMS operating system.

EXHIBIT

TSR NETWORK PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
<ul style="list-style-type: none"> ● Operating Environment <ul style="list-style-type: none"> – IBM 370/158 – Four-Phase 311 – VM/CMS – TOTAL/APL ● Programming Languages Supported <ul style="list-style-type: none"> – APL – BASIC – FORTRAN – COBOL – APL/1 – TOTAL/APL – BAL ● Data Management Software <ul style="list-style-type: none"> – Shell – RAMIS II ● Data Bases Available <ul style="list-style-type: none"> – Consumer and Producer <ul style="list-style-type: none"> • PPI/CPI – Financial <ul style="list-style-type: none"> • Compustat II Financial • Compustat II Line of Business • FHLBB – Economic <ul style="list-style-type: none"> • Citibase – Securities and Investments <ul style="list-style-type: none"> • Muller Data – Banking <ul style="list-style-type: none"> • Decision Research Sciences • FHLBB – Insurance <ul style="list-style-type: none"> • A.M. Best 	<ul style="list-style-type: none"> ● Graphics <ul style="list-style-type: none"> – XIBIT – TSR Graph – SAS Graph ● Statistical/Math <ul style="list-style-type: none"> – SAS – MATHPAC ● Financial <ul style="list-style-type: none"> – INSIGHT – QED – COMPASS ● Other <ul style="list-style-type: none"> – Electronic Mail – Project Planning and Control – Fleet Cost Control – Script – Document

TIME SHARING RESOURCES, INC.

- In 1980 TSR introduced Fixed Price Timesharing (FPT). The service is IBM compatible, configured to a client's requirements, on-line and interactive, and offers a fixed monthly rate guaranteed over a flexible fixed time period. The FPT user is provided a dedicated full-time computer, guaranteed backup, and full facilities management services, all provided from TSR's computer center.
- Specialized services to banks offered by CDP Marketing are consolidated account information, comprehensive customer data, financial and industrial analyses, and a business development system.

INDUSTRY MARKETS

- TSR has established a client base that covers a broad spectrum of commercial, financial, and government organizations. This base includes Fortune 1000 companies, oil and gas exploration companies, and clients from the banking and finance, manufacturing, utilities, and insurance industries.

GEOGRAPHIC MARKETS

- TSR derives 100% of its revenue from the United States. Offices are maintained in New York, Paramus, Philadelphia, Stamford, Miami, Dallas, Houston, and Los Angeles.

COMPUTER HARDWARE AND SOFTWARE

- TSR derives 100% of its revenue from the United States. Offices are maintained in New York, Paramus, Philadelphia, Stamford, Miami, Dallas, Houston, and Los Angeles.

COMPUTER HARDWARE AND SOFTWARE

- Access to TSR's network is through TSRNET, a proprietary communications network and Tymnet. Interactive and remote batch processing are offered.
- At its newly completed computer center in Hauppauge, Long Island, TSR has installed:
 - 4 IBM 370/158s.
 - 4 Four-Phase 311s.
 - VM/CMS.
 - TOTAL/APL.

SUMMARY

- TSR is an extremely well-run, dynamic company that, with the exception of 1980, has performed consistently in revenue and earnings growth. The company is at the transition stage, passing from a small entity (less than \$10 million) to a medium-sized concern (up to \$50 million), which requires a change in management style, strength, and depth.

COMPANY HIGHLIGHT

TYMSHARE, INC.
20705 Valley Green Drive
Cupertino, CA 95014
(408) 446-6000

Thomas J. O'Rourke, President
Public Company, NYSE
Total Employees: 3,500
Total Revenue, Fiscal Year End
12/31/82: \$297,000,000
Market Value: \$238 million

THE COMPANY

- Since its founding in 1966, Tymshare has evolved from a remote computing services company specializing in scientific/engineering applications into a multiservice vendor providing data communications services, TK systems, software products, consulting, and third-party maintenance services, as well as processing services. Growth has been achieved primarily through acquisitions that have permitted entry into specialized, competitive markets such as medical systems, electronic funds transfer and other banking services, microwave transmission, and international markets such as the U.K., France, West Germany, and Japan.

TYMSHARE, INC. FIVE-YEAR FINANCIAL SUMMARY (\$ millions)

ITEM	FISCAL YEAR	1982	1981	1980	1979	1978
Revenue		\$297	\$ 290	\$ 235.9	\$ 193.1	\$ 149.6
. Percent increase from previous year		2%	23%	22%	29%	48%
Net income		\$ 8.8	\$ 15.7	\$ 18.7	\$ 14.6	\$ 10.6
. Percent increase (decrease) from previous year		(44%)	(16%)	28%	38%	32%

TYMSHARE, INC.

SERVICE TYPE AND DELIVERY MODE

<u>Service Type</u>	<u>Percent</u>	<u>Revenue Value 1982 (\$ millions)</u>
Processing services	68%	\$202
Software products	2	6
Professional services	3	9
Turnkey systems	3	9
Hardware (sales and rentals)	8	24
Tymnet	14	42
Other	<u>2</u>	<u>5</u>
	100%	\$297

INDUSTRY SECTORS SERVED

Banking and finance	16%
Services	27
Manufacturing	22
Utilities	11
Government	11
Medical	8
Distribution	<u>5</u>
	100%

INTERNATIONAL MARKETS SERVED

- Four percent of Tymshare's revenue is derived from international markets in Europe and Japan, through jointly owned operations in France (CEGOS, SLIGOS), the U.K. (Unilever), West Germany (Taylorix), Japan (Marubeni), and Belgium/Holland/Switzerland (also CEGOS). Of these markets, France would appear to be Tymshare's growth market due to good French PTT connections/agreements.

TYMSHARE, INC.

HISTORICAL GROWTH BY SEGMENT

	<u>Segment</u>	<u>1976 (\$ millions)</u>	<u>1982 (\$ millions)</u>	<u>AAGR (percent)</u>
●	Processing services	\$67.9	\$202	20%
●	Software products	1.6	6	25
●	Professional services	0.8	9	50
●	Turnkey systems	-	9	N/A
●	Hardware (sales and rental)	4.1	24	34%
●	Tymnet	4.1	42	47%
●	Other	<u>3.3</u>	<u>5</u>	<u>7%</u>
	Total	\$81.8	\$297	24%

PROJECTED GROWTH BY SEGMENT

	<u>Segment</u>	<u>AAGR (percent)</u>	<u>Fiscal Year (\$ millions)</u>				
			<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
●	Processing services	17%	\$202	\$236	277	324	379
●	Software products	25	6	8	9	12	15
●	Professional services	35	9	12	16	22	30
●	Turnkey systems	35	9	12	16	22	30
●	Hardware (sales and rentals)	30	24	31	41	53	69
●	Tymnet	18	42	50	58	69	81
●	Other	<u>7</u>	<u>5</u>	<u>5</u>	<u>6</u>	<u>6</u>	<u>7</u>
	Total company size	20%	\$297	\$354	\$423	\$508	\$611

1986 MARKET SHARE

- By 1986 Tymshare will have the following estimated U.S. market shares: Processing Services - 4.3%, Professional Services - 0.2%, Software Products - 0.2%, Data Network Services - 4.2%, all others - less than 1%.

POTENTIAL IMPACT OF ECONOMY

- Economic downturns will affect remote computing services and batch services, which represent 70% of Tymshare's business, but will have a lesser effect on medical services and data communications services, all of which are high growth markets. The manufacturing sector downturn is also of significance to Tymshare since it represents 20% of the clients. Tymshare's ScanSet terminal sales are the one bright spot in Tymshare's results.

POTENTIAL IMPACT OF COMPETITION

- Major competitors are:
 - Remote computing: GEISCO, SBC (CDC), National CSS (D&B), ADP, CSC.
 - Medical services: MCAUTO, Shared Medical, HBO & Company.
 - Accounting/tax: CCH Computax, Fastax, Computer Sciences, Reynolds & Reynolds.
 - Data communications: GTE and AT&T (and Bell operating companies).

POTENTIAL IMPACT OF TECHNOLOGY

- Hardware technology innovations will affect Tymshare's turnkey system markets (2%), hardware markets (14%), and microwave business when this market begins its consolidation phase.
- Software technology innovations are much slower to develop but have a potentially far greater significance to Tymshare's business. The diversity of Tymshare's software products represents an R&D and maintenance load on the company since they compete on so many different fronts. The company does not have the resources to maintain them all in the face of vertical market competition.

SUMMARY

- Tymshare participates in markets characterized by high growth, consolidation of competition, and powerful, financially solid competitors. All of Tymshare's competitors are big-league companies with huge resources. In this perspective Tymshare looks vulnerable. However, Tymshare has managed to build strong positions in key market areas such as Data Network Services from its own resources. Whether it can continue to compete successfully in all of its markets is doubtful. Therefore it is essential for Tymshare to concentrate on its core business (timesharing, network services) and divest itself of those not central to its business (loan servicing, credit/check verification, banking/services).

COMPANY HIGHLIGHT

UNIVERSITY COMPUTING COMPANY
UCC Tower
Exchange Park
Dallas, TX 75235
(214) 353-7100

J. Allen Hufft, President
Subsidiary of Wyly Corporation
Public Corporation: NYSE
Total Employees: 1,845
Total Revenue, Fiscal Year End
12/31/82: \$140,500,000
Market Value: \$167 million

THE COMPANY

- o Wyly Corporation was formed in 1963 in Dallas. Through its wholly owned subsidiary, University Computing Company (UCC), Wyly provides software products and processing services and sells turnkey minicomputer systems and computer equipment through centers and sales offices in the United States, Canada, Western Europe, and Australia.
- o Effective December 31, 1982, the company withdrew from the hardware brokerage business. Automation Center (the international operating arm) acquired a West German supplier of computing services to automobile dealerships. The real growth of the company is in the software division, which had \$48.7 million in revenue in 1982.

UNIVERSITY COMPUTING COMPANY

WYLY
FIVE-YEAR FINANCIAL SUMMARY
 (\$ thousands, except per share data)

	1982	1981	1980	1979	1978
Revenue	\$ 140,500	\$ 118,800	\$ 109,000	\$ 87,147	\$ 76,943
• Percent increase from previous year	18%	25%	35%	13%	12%
Net income (loss) (a)	\$ (7,747)	\$ 9,733	\$ 34,911	\$ 6,076	\$ 75,347
• Percent increase (decrease) from previous year	N/A	(72%)	475%	(92%)	1,726%
Earnings (loss) per share (a)	\$ (0.56)	\$ 0.71	\$ 2.75	\$ 0.53	\$ 7.49
• Percent increase (decrease) from previous year	NA	(74%)	419%	(93%)	436%

- (a) Wyly adopted two new accounting standards of the Financial Accounting Standards Board in 1981. Results for 1981 and 1980 have been restated to reflect the new method of accounting for certain exchange gains and losses from foreign currency translations. 1981, 1980, and 1979 have been restated for the new method of accounting for compensated absences and for the discontinued hardware business.
- o In March 1980 an out-of-court settlement was made with AT&T in connection with a suit charging that AT&T's data communications monopoly bankrupted Wyly's Datran subsidiary. Of the \$50 million settlement, Wyly received \$25 million; the trustee for bankrupt Datran received \$11.5 million; and attorneys and other litigation costs claimed \$13.5 million.
 - In December 1981 Datran's trustee made the final distribution of funds for debts incurred by Datran. Except for Careal Holding AG and Wyly, all allowed claims against Datran have been paid.
- o In the first half of 1982, Careal Holding AG, a Swiss holding company, acquired approximately 250,000 additional shares of Wyly stock, bringing its ownership position in the company to 58%. In July Careal announced its intention to buy another 250,000 shares, which will bring its ownership to 60%.
- o UCC acquired the following companies in 1981 and 1982.
 - In July 1981 UCC acquired the Systems Division of Valuation Research Corporation of Des Plaines (IL) for \$2 million in cash and notes. The transaction included four accounting software products, a client base

UNIVERSITY COMPUTING COMPANY

of 300, and a staff of 30. 1980 revenue for this division was approximately \$1.6 million.

- In November 1981 UCC acquired Fortex Data Corporation, a privately held firm headquartered in Chicago. Fortex, with 60 employees and revenue of about \$6 million, markets financial applications software and has a client base of 200. Fortex has been integrated with UCC's Applications Software Division. Revenue from Fortex was included from the date of acquisition and contributed approximately \$800,000 to Wyly's 1981 revenue.
- In May 1982 UCC acquired GfA Exdata, a group of six German service bureaus headquartered in Nuremberg. GfA, with revenue of approximately \$6 million, has over 2,000 clients and specializes in commercial batch financial applications. The company also markets turnkey systems to selected industries. GfA will be integrated with UCC's Automation Center International division.

- o UCC is organized into five units, as seen in Exhibit A.
- o As of December 1982 UCC had 1,845 employees, of which 700 were in foreign locations, divided as follows:

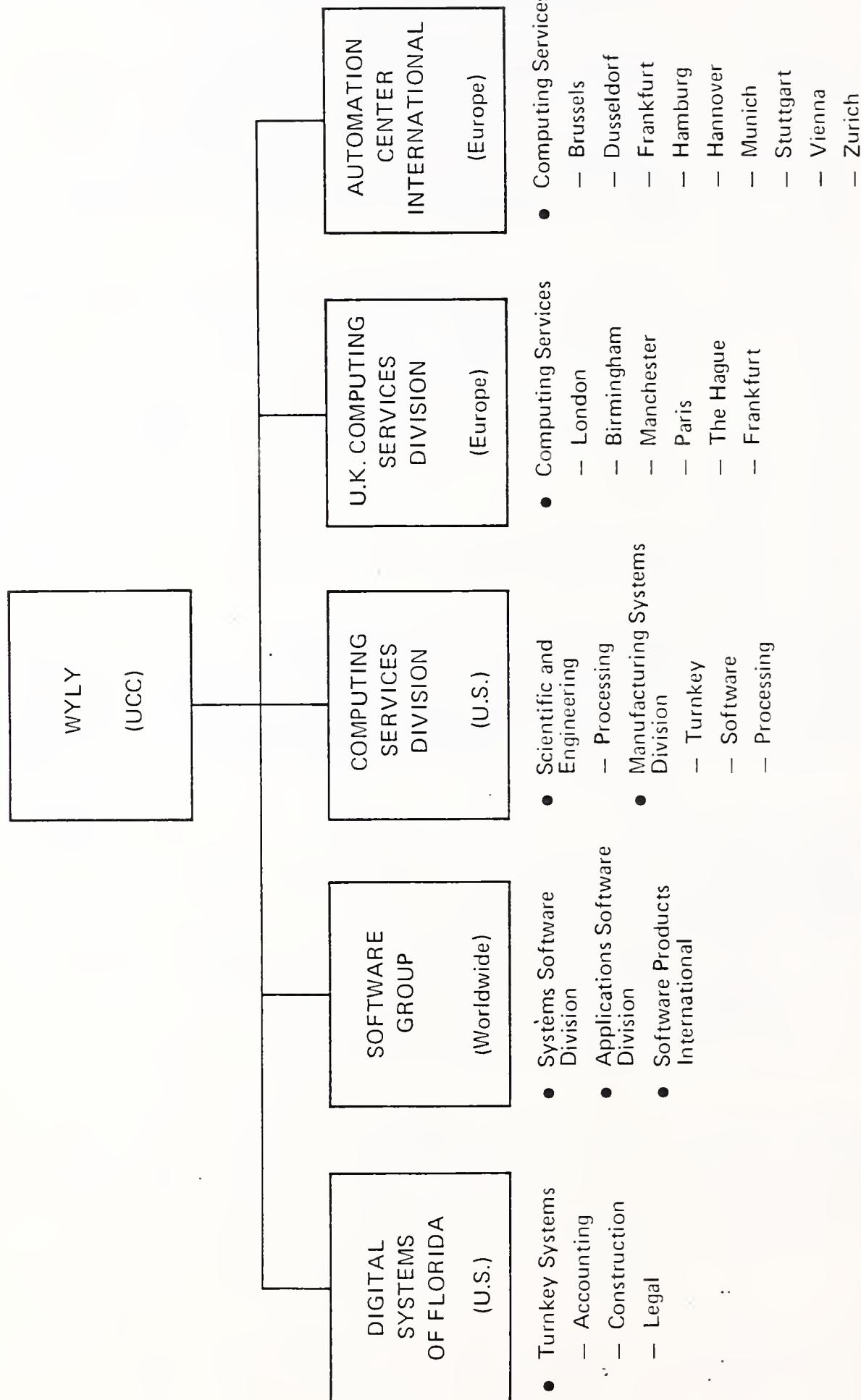
Digital Systems of Florida, Inc.	145
Software Group	600
Computing Services Division	352
U.K. Computing Services Division	178
Automation Centers International	485
Administrative	85
	1,845

KEY PRODUCTS AND SERVICES

- o UCC divides its business into four areas: processing services, software products, turnkey systems, and hardware sales. A three-year summary of revenue by business segment follows:

EXHIBIT A

ORGANIZATION CHART



UNIVERSITY COMPUTING COMPANY

UCC
REVENUE BY BUSINESS SEGMENT
(\$ millions)

	1982	1981	1980	1979
Processing services				
Domestic	\$34.6	\$29.5	\$25.9	\$22.0
Foreign	<u>33.8</u>	<u>35.9</u>	<u>46.0</u>	<u>45.7</u>
Subtotal	\$68.4	\$65.4	\$71.9	\$67.7
Software products (domestic)*				
Systems	\$26.8	\$20.3	\$15.2	\$11.3
Applications	<u>24.9</u>	<u>16.2</u>	<u>11.9</u>	<u>8.1</u>
Subtotal	\$51.7	\$36.5	\$27.1	\$19.4
Turnkey systems				
Domestic	\$17.9	\$16.0	\$9.5	-
Foreign	<u>2.5</u>	<u>0.9</u>	<u>-</u>	<u>-</u>
Subtotal	\$20.4	\$16.9	\$9.5	
Total	<hr/>	<hr/>	<hr/>	<hr/>
	\$140.5	\$118.8	\$108.5	\$87.1

* Revenue derived from foreign countries is included with U.S. operations since it is considered U.S. export revenue, not revenue from foreign operations.

- o Processing services, provided in the U.S. by the Computing Services Division, grew 5% in 1982 to \$68.4 million.
 - All domestic 1982 revenue was from remote computing services. Interactive processing represented 97% and remote batch and other processing 3% of the total. Sale of raw computer time represented 15% of revenue in 1981 and 1980.
 - Processing revenue is derived primarily from civil, structural, electronic, nuclear, and petroleum engineering; manufacturing; and mathematical and engineering analysis companies. Major applications are listed in Exhibit B.
 - . Numerical control systems include APT programming of machine tools for multiple axis contouring and graphic display of geometry and tool motion. Postprocessors for translating APT into machine tool language for specific tool/controller combinations are also available.

UNIVERSITY COMPUTING COMPANY

EXHIBIT B

UCC U.S. NETWORK PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
<ul style="list-style-type: none"> ● OPERATING ENVIRONMENT <ul style="list-style-type: none"> — UNIVAC 1108, 1100/82 — CDC CYBER 175, 176 — IBM 370/168 — PRIME 750 ● PROGRAMMING LANGUAGES <ul style="list-style-type: none"> — FORTRAN — COBOL ● DATA MANAGEMENT STRUCTURE <ul style="list-style-type: none"> — DB4 — SPREAD — DRS ● CHEMICAL ENGINEERING <ul style="list-style-type: none"> — CHEMSHARE — PDSMS — CPPDMS — PPDS — HEXTRAN — SSI PROCESS — IRIS — SYNGAS — NGPA — VLE/REGRESS — OLI — ASPEN PLUS ● CIVIL ENGINEERING <ul style="list-style-type: none"> — COGO — ROADS — HEC PROGRAMS — SEPOL — LEASE — STRESS II — MCS — TOPOLOGY — PCA's Concrete Structures — TRI*DRILL — POLYSEWR — TRI*MAT — POSTEN ● MECHANICAL ENGINEERING <ul style="list-style-type: none"> — AC-2 — PLDES — AIDEX — SINDA — FRNC-5 — TRI*VESSEL — HEATING5 — TRI*VEX — HTRI — VESSEL — LUMEN II — WERCO ● PETROLEUM ENGINEERING <ul style="list-style-type: none"> — AIMS III — GASDEL — PLDES — BHP — GASPV — POZ — COMPET — GWT — SPOT — CORES — MBNCE — TRACY — EC01 — MEDSYSTEM — UNIT — ELOG — OILPVT — WTRFLD ● STRUCTURAL ENGINEERING <ul style="list-style-type: none"> — ANSYS — MRI/MARRS — SHCP — EASE2 — NASTRAN — SPACE IV — FASOR — PISCES — STAAD-III — HEAT TRANSFER — SACS — STARDYNE — KSHEL — SAP — STRUDL — MATERIAL BALANCE — SEPS — STEALTH — MARC — SHAKE — PDSI — MARC — STRUDL ● OTHER ENGINEERING <ul style="list-style-type: none"> — GPSS/UCC — PROJECT/2 — PMCS — BES — POWERNET — AXCESS 	<ul style="list-style-type: none"> ● ELECTRIC POWER INDUSTRY <ul style="list-style-type: none"> — ACSL — MARCH — AMPX II — MORSE-CG — ANISN-W — NORGE — ANSYR — PDQ-7 ARMP — ARMP — PDQ-7 VERSION II — BEACON — PEPSE — BLAST-2 — PSEQGN — CASK — QAD-P5A — CASMO — RELAP3/MOD40 — COBRA-IV-I — RELAP4/MOD5 — COMETHE-3J — RELAP4/MOD6 — CONTEMPT EI — RELAP5 — CONTEMPT4 MOD2A — RETRAN — CORRAL — SETS — CRAC — SHAKE 2 — DOE-2 — SHUFFLE-EI — DOMINO — SIMULATE — DOT 3.5/DOT 4 — STEALTH — FMS — SUPERFLUSH — FRAP-S3 — TCOPY — FRAP-T3 — TPREL — FRAPCON — TOODEE2 — GAPCON3 — VITAMIN-C — GARDS — WAM-BAM — HEATING5 — WAM-CUT — KENO IV ● ELECTRONICS <ul style="list-style-type: none"> — ATLAS-99 — PREDICTOR — CAPSIL — SCEPTRE — LASAR — SPICE — MAGIC — UCCAP — MICROPROCESSOR ● MANAGEMENT SCIENCE <ul style="list-style-type: none"> — ACSL — IMSL — SIMSCRIPT — APEX III — MATH Packages — STAT Packages — BMDP Series — MIMIC — SAS/ETS — DOMINO — MODEL — SAS/GRAPH — FMPS — GAMMA — SAS — GAMMA — SETS ● MANUFACTURING <ul style="list-style-type: none"> — Numerical Control — Lathe Module — UCC-APT — NC PLOT II — Interactive APT — Postprocessors ● PIPING ANALYSIS <ul style="list-style-type: none"> — ADPIPE — NUPIPE — TRIFLEX — ANSYS — PIPANL-3 — UCCPIPE — EZFLEX — PIPLIN — MSC/NASTRAN — SUPERPIPE ● OTHER <ul style="list-style-type: none"> — LIBRARIAN — UTTYPE — SOLCOST — PANVALET — DISSPLA — FCHART — ROSCOE — SACM — CPS-1 — TSO — SUPERTAB — FASTEXT — UNIPILOT

- . Nuclear energy systems include over 50 programs to simulate nuclear reactor design and operations.
- . Oil and gas systems calculate value, reserves, taxes, and expenses for oil property; simulate pipeline construction, flow, and economics; calculate gas and oil well requirements, capacities, and performance; and track well utilization and production.
- . Structural analysis systems include finite element analysis, engineering analysis, modeling, and linear analysis for steel and concrete buildings, marine risers and caissons, offshore structures, and petrochemical plants and refineries.
- . Building energy systems include analysis and simulation for building energy consumption, lighting requirements, and construction of prestressed concrete structures.
- . Electronics systems include evaluation of electronic component reliability and quality as well as simulation of automatic test set operation.

- New products announced during the past year include the following:

- . The NUPIPE series of systems for pipe stress and pipe rupture design and analysis, developed by QUADREX Corporation, were introduced in October 1981.
- . DB4, a UCC developed relational data base management system, was made available in October 1981. Features include tabular data structure for simple data base definition, simplified query language, a report writer, and a COBOL/Fortran interface.
- . PDSI STRUDL, a structural analysis and design program developed by Programs for Structural Design, Inc., was introduced in September 1981. The system includes a problem-oriented language, functional programs, and a large choice of finite elements. It handles welding analysis and design and 1978 AISC code checking and verification.
- . STAAD-III, a structural analysis and design package for the engineering of steel structures developed by Research Engineers, became available in November 1981. Functions include static and dynamic analysis of complex structures and graphics capabilities. The 1980 American Institute of Steel Construction tables are incorporated for steel design, code checking, and member selection.
- . UCC PIPE, a pipe stress program that fulfills piping design requirements for the hydrocarbon processing and power industries, was introduced in December 1981.

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- BMDP (Biomedical Data Processing System), a data description and statistical analysis system containing three dozen programs, was released in January 1982. Statistical analysis features include Box-Jenkins time series, frequency table, and regression analysis.
- MODEL, developed by Lloyd Bush & Associates and introduced in February 1982, is a financial modeling system that assists in business planning and risk analysis. Applications include spreadsheet analysis and financial statement generation and consolidation.
- In January 1982 two new SAS (Statistical Analysis System) programs became available.
 - SAS/ETS (SAS Econometrics and Time Series Library) provides procedures for time series forecasting and regression and simultaneous equation model estimation and simulation.
 - SAS/GRAFPH is a graphics package that produces color charts and plots, three-dimensional displays, and slides. Previously produced displays can be reproduced, and titles and footnotes can be added to any SAS output.
- PPDS (Physical Property Data Systems), introduced in February 1982, provides information for the design of chemical equipment using data bases that include the physical properties of over 400 chemicals.
- ASPEN PLUS, a chemical process simulator and economic evaluation system, became available in June 1982 under an agreement with Aspen Technology, Inc. The package is a commercial version of ASPEN (Advanced Systems for Process Engineering) developed by MIT. ASPEN PLUS performs steady state material and energy balances and estimates cost of equipment. Applications include coal gasification and liquefaction, chemical, petroleum, hydrometallurgical, paper, pulp, food, and environmental controls recovery processing.
- In June 1982 UCC acquired exclusive timesharing marketing rights to AXCESS, an energy analysis system, from Vinokur-Pace Engineering Services, Inc. AXCESS selects the most energy-efficient mechanical and electrical systems for buildings, using local weather data.
- MARC, a group of structural engineering programs developed by MARC Analysis Research Corporation, was released in August 1982. A general purpose finite element program for use in large

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and complex structural models, MARC allows users to select from libraries for elements, materials, and structural procedures.

- UCC announced the availability of two solar energy products in August 1982. The products allow choice of weather data from hundreds of U.S. locations.
 - SOLCOST, developed by Solar Environmental Engineering Company, estimates life cycle costs for solar energy systems and calculates the most efficient solar collector area and tilt angle. SOLCOST also evaluates air systems and systems using heat pumps and absorption cooling.
 - FCHART, developed by the University of Wisconsin's Solar Energy Laboratory, estimates long-term thermal performance and life cycle costs of solar energy systems.
- CPS-I (Contour Plotting Software), developed by Radian Corporation and introduced in August 1982, produces graphic displays of three-dimensional, multiple surfaces with an emphasis on contour plots from gridded or irregularly spaced data points. Included are trend and residual analysis, inference of second horizons, and smoothing and filtering of geophysical data.
- AIMS III, a synthetic seismic modeling system developed by GeoQuest, was released in September 1982. The system aids the petroleum industry in locating hydrocarbons and drilling areas by providing an accurate model of the earth's subsurface based on geologic characteristics.
- UCC's numerical control (NC) systems are marketed under the product name UCC-APT and are available as software products, turnkey systems, or processing services. All modes are marketed by UCC's Manufacturing Systems Division, formed in February 1982 as a unit of the Computing Services Division. The UCC-APT software runs on DEC PDP-11 or VAX minicomputers and IBM mainframes. Over 105 software products and 70 turnkey systems have been sold. UCC began marketing its UCC-APT turnkey systems in the United Kingdom and Australia in the summer of 1982. New developments include:
 - Interactive APT, a complete interactive processing, on-line editing and plotting package designed for small metalworking firms. The package operates on DEC PDP-11 minicomputers and is offered as a turnkey system priced at \$30,000 to \$40,000.
 - In September 1982 UCC announced UCC/CAM-100, a simple, low-cost, high-performance NC turnkey system. The system, scheduled for availability in January 1983, runs on DEC Professional 325/350 microcomputers. Software consists of a standard module and optional

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modules for lathe and mill programming. Prices for the turnkey system range from \$10,000 to \$20,000, depending on options selected.

- o Processing services in Europe are provided through two divisions. 1982 revenue was \$33.8 million, a 6% decrease from 1981 revenue of \$35.9 million. The decrease was due to the depressed European economy and the weakening of foreign currency exchange in relation to the U.S. dollar.
 - The U.K. Computing Services Division, the original UCC international operation, maintains data centers in London and Birmingham (UK). Applications used on the network are about evenly divided between scientific and commercial work. Offered are:
 - Services to users in the Netherlands and the United Kingdom.
 - Scientific and engineering applications similar to those offered in the U.S. on a remote computing basis.
 - Standard packages covering payroll and personnel, credit and business accounting, inventory, management systems for local use, and financial planning and control (primarily batch services).
 - An option for customers to link their own minicomputers to the UCC network for distributed data entry and processing.
 - Automation Center International (ACI), headquartered in Wettingen, Switzerland, was acquired in 1969 and maintains data centers in 10 cities.
 - ACI expanded its market position and service offerings in Germany in May 1982 with the acquisition of GfA Exdata and its six service bureaus located in Hamburg, Hannover, Frankfurt, Stuttgart, Munich, and Dusseldorf. GfA specializes in general ledger, costing, and payroll batch processing for automobile, wholesale, textile, and construction materials dealers.
 - ACI's applications are all commercial. Included are:
 - Services to users in Austria, Belgium, Germany, and Switzerland.
 - Batch-oriented general business applications such as accounting, payroll, costing, statistics, and inventory. Major industries served include wholesale distribution, direct mail, and tourism. ACI also serves the automotive, banking, construction, insurance, publishing, metals, and textile industries.

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- An option for customers to use local minicomputers for data entry.
- . Turnkey systems using Hewlett-Packard hardware are also available, primarily for the automobile, tourism, and wholesale suppliers industries.
- o UCC reported 1982 software revenue of \$51.7 million, a 42% increase over 1981. Over 6,960 packages have been installed. Products available, shown in Exhibit C, operate on IBM 360, 370, 303X, 43XX, and compatible systems.
 - Over 5,305 systems software products have been installed since 1971. Ten products are available through UCC's Systems Software Division.
 - . UCC TWENTY, available since October 1981, is the most recent product introduction in this area. UCC TWENTY is an OS JCL generator that works in conjunction with UCC TWO to ease the transition from DOS to OS and is sold only to new or existing UCC TWO customers.
 - The product automatically enforces user-defined JCL standards and simplifies JCL creation.
 - A CICS front end featuring formatted screens for entering variable input was added to the product in January 1982.
 - . UCC began marketing its systems software products in Japan in June 1981 through a license agreement with Computer Applications Company Ltd. of Tokyo.
 - UCC's Software Products International Division markets systems software products worldwide through its London headquarters, offices in France and Germany, distributors throughout Europe, and in Asia, South Africa, Australia, and Israel.
 - The Applications Software Division provides financial industries and general financial software products. Revenue increased 54% in 1982 to \$24.9 million.
 - . Over 950 financial industry products have been installed since 1972. The ILO (Instalment Loan Online) system was added in May 1982. Written in COBOL, ILO is an on-line component of UCC's Instalment Loan System and features data entry, reconciliation, and data inquiry.
 - . Over 705 general financial products have been installed since 1975. New products include:

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EXHIBIT C

UCC SOFTWARE PRODUCTS

PRODUCT NAME	FUNCTION	PRICE*
<u>Operating Software</u>		
UCC ONE	Tape Management	\$19,000
UCC TWO	DOS to OS Conversion	38,500
UCC THREE	Disk Management (DASD)	17,000
UCC SIX	Partitioned Data Set Management	7,750
UCC SEVEN	Automated Production Control	55,000
UCC EIGHT	Maintenance Tracking/Management Support	40,500
UCC TEN	Data Dictionary/Manager	24,000
UCC ELEVEN	Job Tracking and Control	16,000
UCC TWENTY	OS JCL Generator	10,500
UCC RELIABILITY PLUS	Reliability Measurement	16,500
<u>Financial Software</u>		
UCC CIF	Customer Information File	Upon request. Prices vary depending on components purchased, operating system, and access method.
UCC SUPER MICR	MICR Check Processing	
UCC CLS	Commercial Loan System	
UCC ILS	Instalment Loan System	
UCC ILO	Instalment Loan Online	
UCC CPAS	Customer Profitability Analysis	
UCC PIPS	Electronic Funds Transfer	
UCC ACM	Asset Card Management	
UCC CTS	Consumer Transaction System	
UCC FCS	Financial Control for Banks	
<u>Commercial Financial Software</u>		
UCC FCS	Financial Control	Upon request. Prices vary depending on components purchased, operating system, and access method.
UCC APO	Accounts Payable Online	
UCC APS	Accounts Payable System	
UCC FAS	Fixed Asset Management System	
UCC CPS	Capital Project Control System	
UCC LAS	Lease Management and Administration	
UCC TPS	Tax Planning and Compliance	
UCC ITS	Inflation Trends Service	
UCC FORTEX CARMS	Accounts Receivable	
<u>Manufacturing Software</u>		
UCC-APT	Numerical Control	
— Basic Level		
— Intermediate Level		
— Advanced Level		
UCC Lathe Module	Lathe Programming Language	
UCC Postprocessors	Postprocessor for Machine/Tool Control	
UCC NC-Plot II	NC Graphics Display	
Generalized Postprocessors (G-POSTS)	Postprocessors for Machine/Tool Control	
— Lathe		
— Milling/Machine		
Interactive APT (Turnkey System)	Numerical Control	30,000 - 40,000
UCC/CAM-100 (Turnkey System)	Numerical Control	10,000 - 20,000

*Prices subject to change.

UNIVERSITY COMPUTING COMPANY

- UCC APO (Accounts Payable Online), introduced in July 1981, supports entry, full editing, and inquiry for accounts payable and purchase order control functions as well as on-line correction to the rotating error file.
- UCC Fortex CARMS (Commercial Accounts Receivable Management System), written in COBOL, is offered as a result of the acquisition of Fortex Data Corporation in November 1981. There are 217 installations of the product.
- o Turnkey systems and computer equipment are sold by Digital Systems of Florida, Inc. (DSF), headquartered in Pensacola. DSF was acquired by UCC in February 1980 and generated \$20.4 million in 1982 revenue.
 - DSF markets turnkey systems for the accounting, construction, and legal professions. About 1,600 systems have been installed since 1975.
 - . The Client Accounting System is marketed to accounting firms on DEC PDP-8 and -11 minicomputers.
 - Applications available include client write-up (an enhanced general ledger), time and billing, practice management, accounts payable/receivable, payroll, form 1040, and some state tax preparation forms, loan amortization, asset depreciation, and word processing.
 - Prices for the turnkey system start at under \$10,000 for PDP-8 users. For PDP-11 users, prices range from about \$20,000 to \$80,000, depending on options selected.
 - There are about 1,400 installations of the Client Accounting System.
 - . In 1981 the Contractor Management System was introduced for the construction industry. It is sold on DEC PDP-11s.
 - Applications available include accounts payable, purchase order, inventory control, payroll, job and equipment costing, and general ledger. All software modules are totally integrated.
 - The system ranges in price from over \$25,000 to \$80,000, depending on options selected. There are about 200 installations of the Contractor Management System.
 - . The Legal Practice Management System, scheduled for introduction in January 1983, will be marketed to attorneys to help manage expenses, scheduling, and client accounting.

UNIVERSITY COMPUTING COMPANY

- Applications include time analysis, cash flow and management reporting, staff/client scheduling and budgeting, work in progress, accounts payable, accounts receivable, general ledger, payroll, and word processing.
- The system runs on DEC PDP-11 minicomputers, with prices ranging from over \$25,000 to \$80,000, depending on options selected.
- 1981 revenue from equipment sales was \$27.9 million, up 200% from \$9.3 million in 1980. The large increase resulted principally from increased efforts to sell equipment due to inventory overcommitments in early 1981.
 - . DSF's Computer and Terminal Exchange markets DEC mini-computers and peripherals, Texas Instruments terminals, supplies (including floppy disks, ribbons, and paper), components, and accessories worldwide.
 - . DSF became an authorized distributor of IBM display terminals and printers in July 1982.

INDUSTRY MARKETS

- o UCC's products and services are marketed across industry sectors. Major areas of concentration include engineering, consulting and design, petrochemical and energy, electronics and electrical utilities, manufacturing, banking and accounting, construction, and government.

GEOGRAPHIC MARKETS

- o Geographic revenue is distributed as follows:

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UCC
REVENUE BY GEOGRAPHIC REGION
(\$ millions)

	1981	1980	1979	1978	1977
Revenue					
. U.S.	\$ 109.9	\$ 71.8	\$ 41.4	\$ 36.3	\$ 34.6
. Western Europe	35.1	44.9	45.0	40.1	33.6
. Canada	<u>1.7</u>	<u>1.1</u>	<u>0.7</u>	<u>0.5</u>	<u>0.7</u>
	\$ 146.7	\$ 117.8	\$ 87.1	\$ 76.9	\$ 68.9
Income before tax and extraordinary item					
. U.S.	\$ 11.1	\$ 9.6	\$ 3.5	\$ 2.2	\$ 0.8
. Western Europe	0.9	3.1	5.5	5.9	4.6
. Canada	0.2	0.1	-	-	-
Unallocated corporate expenses	<u>(1.7)</u>	<u>(2.2)</u>	<u>(1.7)</u>	<u>(3.3)</u>	<u>(8.0)</u>
	\$ 10.5	\$ 10.6	\$ 7.3	\$ 4.8	\$ (2.6)

- Revenue is also derived from Mexico, Australia, Japan, South America, South Africa, and the Middle East. Revenue derived from countries other than Western Europe and Canada, primarily from software products, is included with U.S. operations since it is considered U.S. export revenue, not revenue from foreign operations.
- UCC offices are located in 35 U.S. and Canadian cities, 15 European locations, and in Melbourne, Australia.
- Distributors are located in Western Europe, South Africa, Japan, Indonesia, New Zealand, Australia, Israel, and Singapore.

COMPUTER HARDWARE

- o UCC serves Canadian and U.S. clients from its Dallas data center. Equipment as of September 1982 includes:
 - 2 Univac 1100/82s.
 - 3 Univac 1108s.
 - 1 CDC CYBER 175.
 - 1 CDC CYBER 176.
 - 2 IBM 370/168s.
 - 4 Prime 750s.

UNIVERSITY COMPUTING COMPANY

- o European data centers are operated in London and Birmingham, United Kingdom; Wettingen, Switzerland; Vienna and Wels, Austria; Dusseldorf, Frankfurt, Hamburg, Hannover, Munich, and Stuttgart, Germany; and Brussels, Belgium. Collectively, these centers have the following equipment installed:
 - 1 Univac 1100/62.
 - 5 Univac 1108s.
 - 5 IBM 370s.
 - 5 Siemens 7000s.
 - 10 HP 3000s.
 - 1 DEC VAX.
 - 2 ICLs.
- o UCC's Dallas data center has been linked with the computer utility center in London since 1981, making CYBER and larger Univac systems available to European customers.
- o Communications are via microwave, leased lines, Tymnet, Telenet, and in-WATS services. UCC installed a private packet-switched telecommunications network in the summer of 1982.

SUMMARY

- o The attraction of UCC to CNB resides entirely in the software group, which is heavily banking/finance-oriented. UCC is a strange mixture of scientific processing services, turnkey systems, commercial processing services, and software products. The group is very difficult to manage, as the uneven UCC results over the past five years show. UCC needs to determine which business it is in.

